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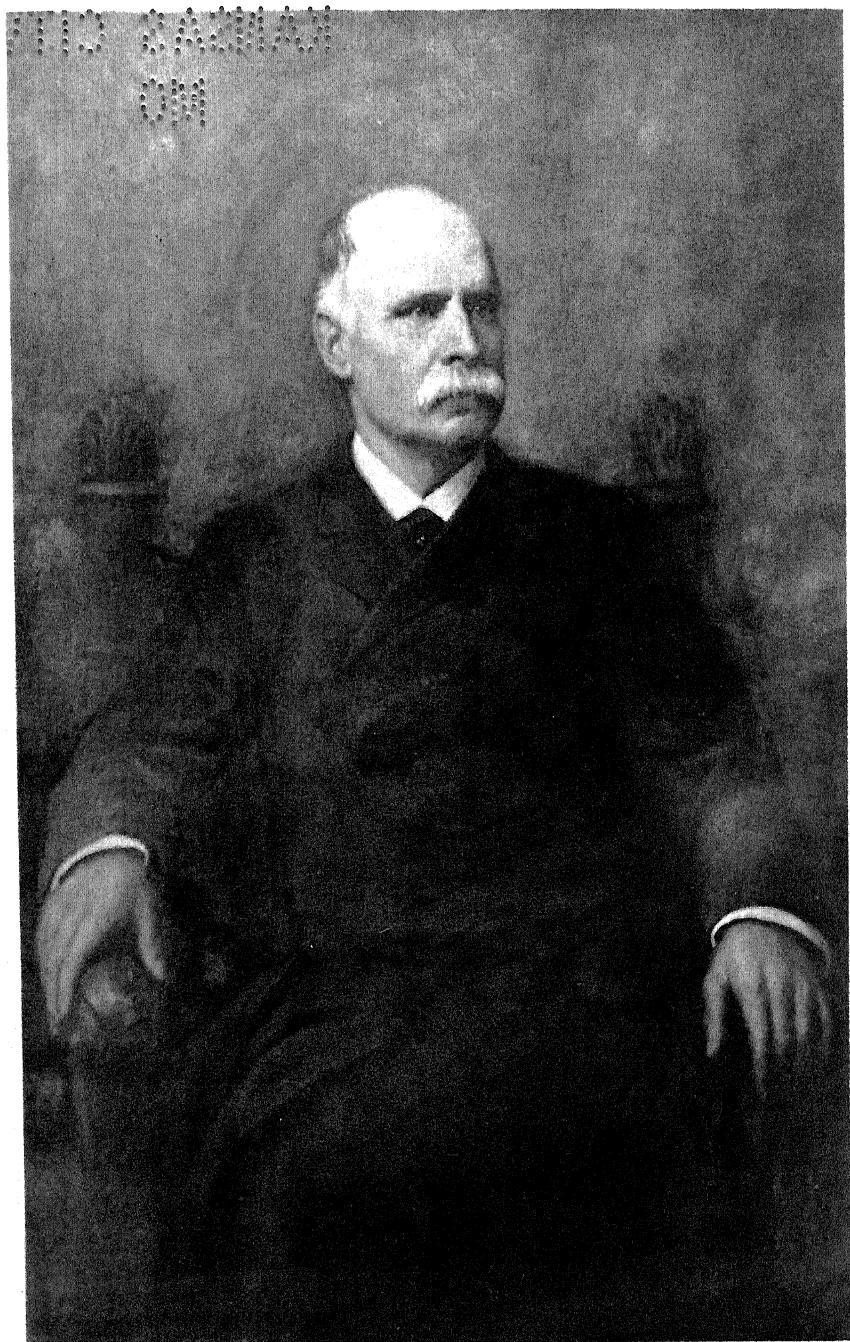
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**DREXEL INSTITUTE
OF TECHNOLOGY**



Anthony J. Drexel

DREXEL INSTITUTE OF TECHNOLOGY

1891 - 1941

A Memorial History

By

EDWARD D. McDONALD

and

EDWARD M. HINTON



Philadelphia

1 9 4 2

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In memory of
ANTHONY JOSEPH DREXEL

CONTENTS

	Page
FOREWORD	xiii
I. THE FOUNDER	1-14
Francis Martin Drexel. His early life. Arrival in America. Work in art. Marriage. Travels in South and Central America. Drexel and Company. Anthony Joseph Drexel. Boyhood. Enters Drexel and Company. Expansion of the Company. Character of Anthony Joseph Drexel. George W. Childs: personality. Friendship with the Founder. Philadelphia of the Childs-Drexel era. Plans for the Institute.	
II. THE FOUNDATION	15-30
The founding announced. The Founder's motives and purposes. Encouraged by Ellen Rozet Drexel, his wife, and by George W. Childs. Early gifts to the Institute. Building and equipment. The dedicatory services. Chauncey M. Depew on education.	
III. JAMES MAC ALISTER	31-53
MacAlister: proponent of technological education. His interpretation of the Institute. Experience in education. Constitution of the Institute. Early Board of Trustees. Board of Managers. Advisory Board of Women. First departments of instruction. Success of the Institute. Death of the Founder. Early faculty and administrative officers. Early traditions. Place of the Institute in education. MacAlister's services.	
IV. HOLLIS GODFREY	54-69
Ad interim presidency of Horace Churchman. Survey of the Institute. Godfrey's early career in education. Administrative changes. Reorganization and consolidation of departments. Toward the college. Degrees. Nature of change. Higher instructional standards. Twenty-fifth anniversary. College enrolment in war years. War training for women. The Coöperative Plan. "The Drexel Idea." Godfrey and the Institute.	

	Page
V. KENNETH GORDON MATHESON	70-97
Administrative Board. Matheson's equipment. Status of the Institute in 1922. Definition of policy. Matheson and the Coöperative Plan. The Endowment Campaign. Physical expansion of the Institute: Curtis Hall; the Sarah Drexel Van Rensselaer Dormitory for Women; The Drexel Lodge. Within the Institute. Matheson on the Godfrey reorganization. The closing year.	
VI. PARKE REXFORD KOLBE	98-120
Ad interim Executive Committee. Dr. Parke R. Kolbe. His report on the Institute of 1932: analysis and proposals. Decentralized administration. Research; student health. Publicity; Clubrooms. Annual reports; real holdings. Passing of distinguished trustees. The Van Rensselaer Lectureship. Gifts and scholarships. Orientation and guidance. Open House. Change of name. Pressure for space. Enrolment: 1932-1940. Added facilities. Drexel and national defense. The Institute today.	
VII. THE ARTS TRADITION	121-142
The Art Department: Fine Arts; Architecture; Applied Art; The School of Illustration. Howard Pyle on art. Dissolution of the Art Department. Public Lectures and Entertainments. Choral Music. The Museum. The Picture Gallery. The Advisory Art Committee.	
VIII. BUSINESS ADMINISTRATION	143-163
Constituent divisions of instruction. Beginning years. Non-competitive status. Early administration: 1893-1914. Parke Schoch. Teacher training. Reorganization: 1914-1922. School of Business Administration: 1922-1941. Expansion of curricula. Retail Management. School of Business Administration today.	
IX. ENGINEERING	164-186
Constituent courses: Scientific, Technical, Mechanic Arts. Electricity; electrical engineering. Integration: 1903-1914. Credo of the middle years. The School of Engineering: 1914-1921. Curricula for degree and diploma. Post-war personnel. Coöperative courses. Inte-	

gration of curricula. Engineering under Matheson: 1922-1931. Steps toward accrediting. The five-year curriculum. Chemical Engineering. The School of Engineering: 1932-1941. Engineering and national defense. Reserve Officers' Training Corps.

X. HOME ECONOMICS 187-210

Constituent courses: 1892-1900. Toward consolidation. Departments of Domestic Science and Arts: 1900-1914. Junior Course. Early Normal courses. Education and psychology. School of Domestic Science and Arts: 1914-1922. Reorganization for degree. Dietetics; War courses for women. School of Home Economics: 1922-1941. Major divisions: 1927-1941. Graduate study in Home Economics. Physical facilities. Adjustment and guidance. Placement. Home Economics looks forward.

XI. LIBRARY SCIENCE 210-225

Education for librarianship. The Library School: first decade. A Library School vignette. Toward a liberal background. The Library School: 1910-1914. Suspension of the School. Reestablishment: 1922. School of Library Science: 1922-1931. Toward the degree. The Carnegie Grant. School of Library Science: 1932-1941. Special courses. The Library School looks ahead.

XII. THE EVENING SCHOOL 226-259

Early constituent courses. Engineering. Extension of curricula. Architecture. Certification for credit. Growth and integration: 1898-1904. Group Courses. Rowland's report of 1904-1905. The group plan. The Evening School: 1907-1918. Liaison between the Evening School and industry. The Evening Diploma School: 1919-1941. Expansion of industrial and commercial relations. Unique features of the Evening School: post-diploma courses; courses for technical graduates; Evening-Day transfer provision. The national certification plan.

XIII. STUDENT LIFE AND GOVERNMENT 260-275

Background. Hellenism in the Day College. Modern non-Hellenic societies. Other ephemerae. Dramatics.

Music at Drexel. Student publications. Student professional societies. General honor societies. Religious organizations. The Drexel Ode. Drexel colors. Student government.

XIV. STUDENT HEALTH AND GAMES 276-292

Department of Physical Training. Athletics for women. Student Health Service. Competitive athletics for men. Official recognition and competitive sports. Intercollegiate beginnings. Football. Early professional coaching. System and integration: 1927-1941.

XV. THE ALUMNI 293-319

Early alumni organization. The constitution of 1906. Alumni-student liaison: 1907-1912. Reorganization in 1912. Alumni and the Institute: 1914-1922. Petition of 1918. Alumni consolidation: 1922-1931. Constitution of 1923. Publication; Alumni Clubs. Scholarship provision. Alumni under President Kolbe. Note on degrees. Associated Alumni of the Evening School.

APPENDIX 320-326

Charter of Drexel Institute of Technology
 Presidents of the Institute
 Chairmen of the Board of Trustees
 Trustees: 1891-1941
 Presidents of the Alumni Association: 1895-1941

INDEX 327-336

ILLUSTRATIONS

ANTHONY J. DREXEL, <i>Frontispiece</i>	Facing Page
FRANCIS MARTIN DREXEL, HIS WIFE AND DAUGHTER MARY. PAINTED BY FRANCIS MARTIN DREXEL. REPRODUCED BY THE COURTESY OF THE MARY DREXEL HOME	4
GEORGE W. CHILDS	16
THE GREAT COURT	24
JAMES MAC ALISTER	34
JAMES W. PAUL, JR.	44
HOLLIS GODFREY	54
KENNETH G. MATHESON	72
CYRUS H. K. CURTIS	86
SARAH DREXEL VAN RENSSELAER	90
PARKE R. KOLBE	98
ALEXANDER VAN RENSSELAER	106
SARAH DREXEL VAN RENSSELAER DORMITORY FOR WOMEN	208
GEORGE W. CHILDS DREXEL	256
THE LOUNGE OF THE STUDENT BUILDING	268
THE DREXEL LODGE	282
A. J. DREXEL PAUL	288

FOREWORD

ON DECEMBER 17, 1941, Drexel Institute of Technology celebrated the fiftieth year of its founding. As early as 1936 it had been decided that a feature of the anniversary year should be a record of the Institute's fidelity to the trust and vision of the Founder, Anthony Joseph Drexel, in the form of a history inscribed to his memory. Accordingly, at the request of the Trustees, Professor Carl Lewis Altmaier, in the service of the Institute since 1893, undertook the writing of the history. Impelled by reasons of health to relinquish the task, Professor Altmaier early in 1940 turned over to the authors the historical material in his possession.

The history of Drexel Institute is a story of growth. Major accent in the present work rests upon the earlier Drexel and the constituency of the technical school curricula out of which, as a necessary response to changing times, the technical college of today evolved. One result of this treatment has been to carry, by implication, the problems of the early Drexel beyond the walls of the Institute itself; for the necessity which dictated its reorganization as a college emphasizes the anomalous position of technical school training throughout the American school system. In a sense the history of Drexel Institute before 1914 is the history of the American technical institute; the problems of the early Institute are the problems of technical schools everywhere today. Drexel, more fortunately circumstanced than most, met the problems by offering training at two levels; but her story, in part at any rate, highlights a problem of truly national scope so far not satisfactorily solved.

It is not often that a school or college stands for half a century without essential modification of purpose. When it does so stand, the instance proves the permanence of the need it serves. At Drexel Institute adaptations have been made to meet new conditions; for from the first its purpose has been single and steadfast: sound training in practical fields for the benefit of the many. From the day of its dedication in 1891, the object of Drexel training has been to open for its students the way of happiness through use-

fulness. Always sensitive and adaptable to social and economic change, the Institute has met the needs of thousands of students.

Limitations of space prevent full and detailed acknowledgment owing to many for help with our undertaking. Most closely associated with the writing of this book have been President Parke R. Kolbe, Deans R. C. Disque, Grace Godfrey, and W. R. Wagenseller. Other members of the Institute staff who deserve our thanks are Deans L. D. Stratton and Ruth A. L. Dorsey; Directors W. T. Spivey, C. A. Kapp, Irma A. Schultz, and Laura S. Campbell; Professors J. H. Billings, W. J. Stevens, L. P. Mains, J. E. Shrader, C. W. Eldon, G. C. Galphin, and Jeannette H. Foster; Fannie C. Hendrie, Frances Wright, Dorothy Gaffly, and Dr. John H. Arnett. Many former teachers and students at the Institute displayed a helpful interest in this work. These include Professors Carl Lewis Altmaier, Henry V. Gummere, Marion Crawley, Jennie Collingwood, Clifford P. Grayson, Mr. Nicola D'Ascenzo, and Mr. Fred Stratton.

Especial acknowledgment is owing to Miss Harriet E. Worrell for her untiring help in making available primary source material; and to Dr. Margaret E. Schofield, sometime Professor of English at Emerson College, Boston. These, through their organizational and research gifts, have made themselves a very real part of Drexel's *History*.

No memorial of the Institute's founding would be complete without tribute of appreciation to students, alumni, Trustees, and friends of Drexel, through whose loyalty and generosity it has been possible for the Institute to realize more fully the Founder's intention.

EDWARD D. McDONALD

EDWARD M. HINTON

Philadelphia

December 17, 1941

CHAPTER ONE

THE FOUNDER

ON DECEMBER 17, 1891, at Philadelphia, Pennsylvania, Drexel Institute of Technology was formally dedicated under the corporate name of the Drexel Institute of Art, Science, and Industry. Only in the formal sense did the dedicatory service mark the beginning of the Institute; behind the dedication lay many years of generous hopes and purposes. And beyond these incorporeal things lay forces in the lives of Francis Martin Drexel and of his son Anthony Joseph Drexel, Founder of the Institute which bears his name. These forces determined the character and educational approach of the Institute, which since 1891 has trained young men and women in skills to meet social, commercial, and industrial change; the while providing for them and for the people of Philadelphia new opportunities for cultural development by means of library, museum, art, music, lectures, and evening classes.

One who undertakes to trace a tradition from source must often skirt the fringes of what is problematical. It is known that both father and son were lovers of art and music, and were informally schooled in them; but that both were fundamentally men of business. Drexel Institute in its dual function of art appreciation and elaborate provision for practical training in practical skills offered, in its early years, a close and interesting parallelism to the life experience of its Founder. The logical inference is a matter of simple statement. Francis Martin Drexel's informal schooling, his difficult and uncertain years, his practice of art, and his varied knowledge of affairs formed in his mind a very clear concept of what the education of his sons should be. Anthony Joseph Drexel, duplicating vicariously as well as actually much of his father's experience, assumed as he grew in years his father's manner of thinking. Francis Martin Drexel, with a forward view to his son's success, had combined in the training of the boy appreciation of beauty with practical business skills. The son, grown old, reviewing a career successfully shaped in that

tradition, perpetuated through the Institute the educational approach in which he had been trained and which the events of his life had put to successful test.

FRANCIS MARTIN DREXEL

1792-1863*

Francis Martin Drexel, founder of the Drexel family in America, was born of a well-to-do mercantile family at Dornbirn in the Austrian Tyrol, April 7, 1792. He entered this world destined for a career of restless change. When eleven years old he was sent to a noted school near Milan, Italy. Here he remained for about two years, learning among other things Italian and French, forgetting the while much of his native tongue. Plans for the boy's further education were already in his father's mind when Napoleon's Austrian campaign in 1805 greatly impoverished the Drexel family. Francis Martin was called home, but thereafter, except for occasional visits to the place of his birth, his Dornbirn days were over. Soon he began his wanderings over the face of western Europe, schooling himself in art as best he could and making his way by whatever work he could find. In 1814, upon the fall of Napoleon, he returned briefly to Dornbirn. There he received a commission to paint a water color in honor of the expected visit of Emperor Francis of Austria. Francis Martin's painting depicting the Emperor, Czar Alexander of Russia, and King Frederick William III of Prussia kneeling in thanksgiving after the Battle of Leipzig won praise from His Imperial Highness but little else. Accordingly, after two more difficult years, he embarked in 1817 for America, landing on July 28, after an eventful voyage of 72 days, at Philadelphia. Here fortune smiled.

The new world welcomed the young Austrian's not inconsiderable talent. In 1818 he exhibited in the Pennsylvania Academy of

* Francis Martin Drexel's life from 1792 to 1837 is fully and excitingly told by Mr. Boies Penrose in his article, "The Early Life of F. M. Drexel," *Pennsylvania Magazine of History and Biography*, pp. 329-57, vol. 60, 1936. Mr. Penrose's account, which is fully documented, is based in part upon original manuscripts in his possession, in part upon typescripts of the unpublished "Life and Travels of F. M. Drexel: 1792-1826," and in part upon the *Journal of Trip to South America*, also by F. M. Drexel. The former of these manuscripts has unfortunately disappeared, although several typescripts exist. About 1916 the late Sarah Drexel Van Rensselaer, daughter of Anthony J. Drexel, had printed for private distribution a small edition of the latter.

the Fine Arts nine oils and two drawings. Other exhibits followed, that of 1824 being especially well received. In 1821 he had married Catherine Hookey, daughter of Anthony Hookey, one of the founders of Holy Trinity Church. In 1822 Drexel had been elected to the Deutsche Gesellschaft of Philadelphia, and relative security and success had brought him other useful associations.

Marriage and success failed to dull the wanderlust. Drexel had not yet found himself. His was a mercantile tradition. His portraits, all meticulous in craftsmanship, some of real excellence, were not of first rank, and this the youthful painter must have known. Seized again with restlessness, but not wanting shrewdness of decision, Drexel sailed for South America in 1826. There, during the four years following, his portraits were well received and well rewarded; he was able also to increase his very substantial income by acting as broker in the sale of curios and objects of art. There, too, he found opportunity in the chaotic state of South American exchanges—an experience which appears to have marked the beginning of his active interest in financial operations. But he did not immediately give up painting. Returning to the United States in 1830, he removed his studio to 40 South Sixth Street, a site later to be occupied by the *Public Ledger*, in which his son Anthony Joseph and his grandson George W. Childs Drexel were to hold large interests.

A second tour, this time to Central America, followed; from it, Francis Martin Drexel returned with funds and experience sufficient to warrant a transfer of allegiance from painting to banking. Concerning his travels on the South American continent and its relationship to the establishment of the early Drexel brokerage house, it is enough to quote in part from an anonymously written brochure entitled *A New Home for an Old House*:*

It is likely that Mr. Drexel's travels in Europe and on the American continent imparted to the founder of Drexel & Co. a broad knowledge of practical finance, which was to serve him in good stead. He had accumulated as well considerable capital as a result of his tours, during which he also made many valuable friendships with some of the leading men in Latin America.

Drexel's first enterprise was a brokerage office in Louisville, Kentucky, which he opened in 1837. Shortly thereafter, in Janu-

* Privately printed. Drexel & Co., Philadelphia, 1927.

ary, 1838, he returned to Philadelphia to open offices at 34 South Third Street, then the shipping and brokerage center of the city. Drexel at the age of forty-six had found himself as a successful banker. Again with his family, and mindful of the insecurities of his own roving years, his first care was that his sons should not undergo a similar experience. Training them from early boyhood in his office, he may very well have privately urged upon them the claims of artistic appreciation, though like his own, their natural bent was toward practical affairs. Thus, out of a curious and seemingly contradictory fusion of artistic interests and hard-headed commercial heritage the House of Drexel began. Writes the author of *A New Home for an Old House*:

As Mr. Drexel's young sons became old enough, they were taken into the office. Francis A. Drexel, the eldest of the brothers, was born January 20, 1824; Anthony J. Drexel, the second son, on September 13, 1826; and Joseph William Drexel, on January 24, 1833. The father was old-fashioned in his ideas of bringing up children, and no one in his employ worked longer or harder hours than his three boys. When closing time came, it was the employees who went home; Mr. Drexel and his sons remained at their counters and desks and the young Drexels learned the banking business thoroughly.

Such, briefly, was the life of Francis Martin Drexel, whose death occurred in 1863; and such the modest and unusual beginning of Drexel & Company.

ANTHONY JOSEPH DREXEL

1826-1893

Born in Philadelphia, September 13, 1826, Anthony Joseph Drexel spent his first thirteen years for the most part under his father's tutelage. Much of this instruction lay in appreciation of art and music and in languages. His love of music and his ability as musician and linguist were formed under his father's instruction after the day's work was over. While still a boy he walked on Sundays to a small church on the outskirts of Philadelphia to play the organ at fifty dollars a year.

In his thirteenth year he entered the Drexel office, where with his elder brother he served a long apprenticeship in learning the intricacies of money and banking. He knew the meaning of re-



*Francis Martin Drexel, His Wife and Daughter Mary
Painted by Francis Martin Drexel*

sponsibility early. According to one anecdote, when about thirteen years old he was sent by his father from Philadelphia to New Orleans by stagecoach with a considerable sum of money. Under the stern discipline of Francis Martin he learned to live simply, a rule from which even in days of great affluence he never departed. After admission to partnership in 1847, he took his share in the task of building, with thrift, punctuality, and integrity, the reputation of the House of Drexel. The simplicity of his early training remained, however; he seems never to have forgotten that in his youthful days he lunched in his office on hard biscuit and cheese.

Anecdotes of Drexel's boyhood are few and scattered. Unlike his father, he kept no journal; consequently there is little documented source material for the biographer. The pattern of his life appears to have been simple and conventional. Anthony J. Drexel was a modest, unassuming man, generous, and devoted to his business and his family.

The House of Drexel owed its growth to a fortunate conjunction of business skill and opportunity. When Anthony J. Drexel became a partner in the firm, the United States was at war with Mexico. The youthful Drexel enterprise was in a position to assist the United States Treasury in floating loans necessary for military operations. Two years later the House of Drexel followed the Forty-niners to California and there established the San Francisco firm of Drexel, Sather, and Church. As the new undertaking involved a seven-year absence by Francis Martin, the Philadelphia branch was administered by the sons. The youngest of these, Joseph William, became a partner of Drexel, Harjes, and Company, of Paris, established in 1867; and in 1871 of the New York firm of Drexel, Morgan and Company. In a single generation the House of Drexel had become international.

The Drexels did not allow their far-flung enterprises, to which must be added conservative investment in the expansion of railroads of the post-Civil War era, to distract them from the opportunities of their native Philadelphia. Anthony J. Drexel invested in real estate, which he foresaw must increase in value as the city moved westward. It was his interest in the city, both financial and benevolent, which drew him, first into friendship and later

into silent partnership with George W. Childs, publisher of the *Philadelphia Public Ledger*.

In 1885, upon the death of his elder brother Francis A. Drexel, Anthony Joseph became the administrative head of the firm. A man of fabulous wealth for the era, and member of a family well-known for its active interest in socially useful endeavors, he began, with his friend Childs, a series of philanthropies, the greatest of which was to be the founding of the educational institution which bears his name.

The personal life of Anthony J. Drexel appears, upon investigation, oddly remote and detached. He avoided publicity at all times, though public honors of many kinds were his for the acceptance, among them the portfolio of Secretary of the Treasury under President Grant. This he declined. His work, his family, and his few intimate friendships closed the circle of his life. Perhaps the nearest approach to a glimpse within that circle appears in the following extract from a tribute, said to have been written by J. Peterson Ryder, to the Founder and his wife, Ellen Rozet Drexel, daughter of John Rozet, a Philadelphia merchant of French birth:

Their home had all the charm of an older civilization. Anthony Joseph's chief pleasure was to spend his evenings in the music room, which had two pianos, playing duets and quartettes from the old masters with his daughters.

Drexel is known to have made liberal donations to hospitals, churches, and other conventional charities; but his aversion to the limelight incident to public acknowledgment was marked. An interesting illustration appears in a memorial article by Childs in the *Public Ledger Almanac* of 1894:

Mr. Drexel was a man of singular modesty; one who feared and shunned praise more than blame. He was, indeed, one of the most retiring and modest men I ever knew. With regard to the great Institute which he founded upon a design so broad and generous, he could rarely be persuaded to appear in it upon any public occasion. In 1892 . . . some of the members of the Board of Managers of the Institution subscribed the sum of five thousand dollars for the purpose of securing a portrait of Mr. Drexel. . . . I knew full well how strongly and sincerely averse he would be to have his portrait placed there during his life-time. . . . After much and prolonged urging by

me, Mr. Drexel consented to yield to our desire, and then only upon the specific condition that the picture should not be paid for by the Board of Managers nor be hung upon the walls of the Institute until after his death.

A natural sequel to the Childs' anecdote is his story which immediately follows concerning the portraits of Drexel and Childs done by the noted French artist Benjamin Constant, portraits now in the possession of the Institute:

M. Constant came to Philadelphia from New York and consented to paint a full-length portrait of Mr. Drexel, who asked me to be present in the studio of the Institute during his sitting to the illustrious artist. At the first of them, after M. Constant had finished the sketching of his fine face, Mr. Drexel arose and insisted on my sitting, and afterward said to me, "You have insisted upon my sitting, now you must do as I have done; for, as we have been together in life, you shall go down to posterity with me through M. Constant's genius." And I was compelled to consent to his wish, and both portraits were duly finished.

For many years he gave generously in the interests of education, especially to the University of Pennsylvania. Later, when the idea of a technical institute had begun to take form in his mind, he included in the concept of the foundation provision for the education of women, whose increased part in the myriad activities of modern life he clearly foresaw. His special interest became the promotion of a type of education that would meet the problems of ordinary, every-day living. This service and this interest, the outgrowth of his own philosophy of life, the teaching of his father, and the counsel of his wife, Ellen Rozet Drexel, and his friend George W. Childs, bore fruit in the founding of an institute planned to extend equal educational and cultural opportunities to women and to men. A full analysis of his aims and benefactions must be deferred to favor a short sketch of his friend and associate of forty years, George W. Childs.

DREXEL AND CHILDS

To the Philadelphia of the late nineteenth century, Anthony J. Drexel was the mirror of what a conservative banker should be. The descriptions which remain of him are laconic: "In person, Mr. Drexel was above middle height, always neatly and quietly dressed, and with a mellow, musical voice that fascinated the

listener." To Philadelphia of the same era, George W. Childs embodied a touch of Pickwickian individuality. It is said, for example, that his custom was to serve tea to ladies introduced to him in his office, and later to present them with the china teacup and silver spoon as souvenirs of the interview.

Dr. Hollis Godfrey, second president of the Institute, in an address entitled "The Childs-Drexel Memories" spoke of the friendship as follows:

Linked with his [Anthony J. Drexel's] name is . . . always the name of Mr. Childs—the picture of their daily walk together, a part of the city's history, making alive the Philadelphia streets on which they made their daily way, the whole forming a Philadelphia story well worth preserving. . . .

Every morning Mr. Drexel would walk from Thirty-ninth and Walnut, where his town house stood, to Twenty-second and Walnut, where Mr. Childs' town house stood. At Twenty-second and Walnut, Mr. Childs joined him, and the two friends walked on to the Ledger Building, now, as then, at Sixth and Chestnut, where Mr. Childs left for his office and Mr. Drexel went on to his own office, which until the Drexel Building was built in 1885, stood at 34 South Third Street.

Year in and year out, they walked the same . . . round, as much a part of Philadelphia life as Independence Hall itself. . . . When one o'clock came, Mr. Childs would . . . walk across to Drexel and Company, where the two friends lunched together in the dining room back of Mr. Drexel's office. . . . The [summer] places of the two friends at Long Branch were near each other, and each Sunday . . . the two served as ushers in the little seaside church of St. James. . . .

George W. Childs, born in Baltimore in 1829, had made his way from modest beginnings. He developed in the years of his success as a publisher a naïve and lovable delight in display. His passion for erecting monuments found domestic expression when he built his marble mansion at Twenty-second and Walnut streets, with its marble lintel and its imported olive-wood doors. Here for many years he held open house to celebrities of all magnitudes who visited Philadelphia. Childs' pride was in the lavish perfection of his hospitality. The spectacular, however, was his foible; his character was generous and kind.

Talcott Williams, in a tribute to Childs, affirms that he "never appealed to him in any worthy cause without response; and of his

income, fabulous for his day, only a fraction went for his personal needs." Williams cites as an index of the man's character an incident which occurred on the final day of his life, when Dr. S. Weir Mitchell, attending the dying man, began:

"Mr. Childs. . . ." But Childs, as the shadows closed about him, interrupted: "What can I do for you, Dr. Mitchell?"

The forty years of friendship and close association of Anthony J. Drexel and George W. Childs marked an era in the Philadelphia of yesterday. Significant is the title of Williams' article printed in the *Ledger* of March 25, 1915, "Philadelphia of the Childs-Drexel Era." Concerning Childs he writes:

Rosy-cheeked, round-bodied, walking briskly with a short-legged gait that just escaped swaying by his firm step, kindly-eyed, firm-lipped over a fat chin, soft-handed and firm of grip, always smiling and never yielding except when he planned, purposed, and proposed, he went through life having his own soft but inflexible way. The saving office boy, born in 1829, was, in 1850 a partner at twenty-one, and at thirty had won a fortune. . . .

He was beaming in his talk rather than brilliant. . . . Lacking this, he had a passion for knowing the greater figures of his day. . . . The quest of the guest was the sport of his life. . . . Royalty sat at his table by the dozen. . . . Every great figure of the Civil War, headed by Grant, entered his door. He was liked, he held his own in all company, his sound sense made up for his innocent egotism, and his infinite and toilsome kindness made men forgive all else.

A greater apparent contrast than that between Drexel and Childs would be far to seek. So reticent was Drexel even in his business affiliations that his partnership with Childs in the *Public Ledger* was not generally known until after his death. Drexel's memory stands a little austere, that of Childs warm and colorful. It is, perhaps, a just estimate to say that Drexel and Childs stand for the best of conservative Philadelphia of the eighties. The code of the period was one of assured reserve. In their respective fields of publishing and finance, Childs and Drexel stood as symbols of the post-Civil War years of Philadelphia.

Whatever their seeming dissimilarities, both men in their benefactions expressed the best of the Philadelphia tradition. Both men, in personal relationships and in business, guarded the in-

tegrity which is the best part of that tradition. Both were deeply interested in everything that related to the preparation of youth for useful as well as satisfying work. Both were bent upon assuring to those who did such work proper recognition and reward. Joint interests and the vision they shared of a changing social and economic order led in time to the establishment of the Drexel Institute.

While plans for the founding of the Institute were still tentative, the Childs and Drexel names were linked in a different but notable philanthropy. In 1886 the two friends gave, "without condition or suggestion of any sort," the sum of \$10,000 to the International Typographical Union. This free and unsolicited gift, augmented from other sources, led in 1892 to the construction of the Childs-Drexel Home for Union Printers, at Colorado Springs, Colorado. This great institution, now known as the Union Printers Home, has under wise administration so prospered that a property originally valued at approximately \$60,000 now represents an investment of over \$8,000,000. It may be doubted if either Drexel or Childs ever made a relatively small bequest more wisely than when in June, 1886, each sent his check for \$5,000 to the Pittsburgh convention of the International Typographical Union.

The long association of Drexel and Childs is formally commemorated at the Institute by a bronze tablet on the south wall of what was once East Hall. Placed beneath the Drexel seal, the tablet contains the following inscription:

In Perpetual Memory
of the
Notable Friendship
between
GEORGE W. CHILDS
and
ANTHONY J. DREXEL

this club room for men students of the Drexel Institute has been established by means of funds given for such purpose to the Fairmount Park Art Association of Philadelphia and by it transferred to the Drexel Institute, February 15, 1930.

PHILADELPHIA OF THE CHILDS-DREXEL ERA

1880-1890

At this point it is well, perhaps, to sketch briefly the Philadelphia of what Talcott Williams called the Childs-Drexel era, and to trace those trends in local industry and commerce which created the need for the type of special training that the Institute was founded to meet.

Of Francis Martin Drexel it has been written that his death in 1863 "coincided roughly with the close of an era in the financial history alike of the country and of the House of Drexel." . . .

The handling of the flood of investment securities connected with national and local public debts, the building of railways, the development of mining, the growth of the factory system, and the improvement of urban real estate led to the transformation of the firm into essentially a house of investment brokers. During this period of expansion . . . A. J. Drexel was the directing genius. . . . The closing years of his life saw a new era of expansion corresponding to the internationalizing of American trade.*

From this passage it is clear that the period of Anthony J. Drexel's control of the financial interests of the House of Drexel coincided with an era of broad social and economic change. The Town by traditional concept lay east of the Schuylkill River and south of Market Street. West Philadelphia stood substantial-suburban. The west and southern reaches beyond Forty-second Street faced a wooded section once locally known as "Sherwood Forest." Then, as now, north of Market and south of Pine was mercantile and manufacturing, the business and commercial area broadening westward to Thirteenth. Roughly then, Philadelphia's residential center was Rittenhouse Square and the area about it which vibrated gently of a Sunday morning to the bells of Holy Trinity. The social life of the city from the Civil War to the turn of the century had not relinquished its Friends tradition of conservatism and restraint.

Market, Arch, Race, and Vine;
Chestnut, Walnut, Spruce, and Pine.

* *Dictionary of American Biography*, V., 455-56.

To *fin-de-siècle* Philadelphia, it was the second verse that mattered. Along the streets and squares the conservatives of the town moved composedly about their business. Theirs the geography of red brick, marble stoop, and brownstone. Along them moved well-sprung perambulators, sedately urged by governesses trailing nursery fragrances of starched linen and castile soap. Along them stole bicycles, single or tandem, and phaetons; along them rattled the high dogcarts of the blades. Now and then, over the sanctity of their cobbled ways rumbled a horse-drawn dray.

In sharp contrast to the architecture of residence, that of business sprawled in frank ugliness to the north and south of the city along the river bank. From all this residential Philadelphia stood aloof. Yet stress and change were creating commercial and industrial developments which were soon to alter the order of tradition. Even before the Civil War, trade unionism had appeared, and the first strikes in the United States had begun. Unionism increased during the post-War period, the result of inquiry on the part of the worker into bases of equity between employer and employee.

Other factors making for change were the rapid advance of transportation and the expansion of the manufactories of textiles, ceramics, steel, and machine products in Philadelphia and her environs. A strong contributing factor, improved communication, heightened the tempo of life and work. With business expansion came a demand for trained workers in commerce and finance, and in fields of technology. The middle eighties saw the growing "emancipation of women" and their entrance in greater numbers into skilled occupations. Finally, Philadelphia as a diversified manufacturing center drew to itself a rapidly increasing population, racially mixed.

The eighties, therefore, marked the onset of an impulse toward large-scale commodity production and distribution. That impulse, gathering power with years, metamorphosed William Penn's original "green and open country town"—picturesque traces of which remained as late as 1914—into a metropolis. It was the trend toward metropolitanism and all that it implied that Anthony J. Drexel discerned in his time and anticipated in the educational theories and practices which received expression in the founding of the Institute.

A NEW FORCE IN PHILADELPHIA EDUCATION

Some note has now been made of the needs for specialized training which the Institute has, from its beginning, uniquely met. The present section will show to what a degree and in what respects the program of the Institute supplemented, but seldom duplicated, distinguished educational facilities already in the city.

Metropolitan Philadelphia had in 1891 its University of Pennsylvania, its Temple University, and its near-by colleges of liberal arts. It had admirable private schools; it had then, as now, a well-administered public school system. But in an era of industrial expansion comparable to that taking place in New York and Chicago, the city seriously lacked facilities for practical, relatively rapid but thorough training in the new and specialized fields so actively expanding. New York, for example, had its Pratt Institute and Cooper Union; but Philadelphia, well equipped for general secondary education and for the broader training in the liberal arts and professional fields, offered no facilities for the type of advanced vocational training which lay somewhere between secondary school and college, and which responded adaptably to changing demands for trained secretaries and office workers, trained mechanics, and trained teachers of vocational subjects—especially in home economics, commerce, and the crafts. The original position of the Institute, neither that of high school, college, nor university, is clearly stated by the *Philadelphia Public Ledger*, in an article dated January 6, 1892:

. . . It does not aim at producing learned scholars, nor qualifying persons for professional life; its purpose is to thoroughly instruct and train young men and women for successfully engaging in artistic, scientific and industrial pursuits. . . .

The Drexel Institute, as the latter part of its title implies, is to furnish thorough instruction and training both in the principles and practice of artistic, scientific and industrial pursuits. It aims to supply that which the "masses," not the few, need and want; and to effect this thoughtful and careful provision has been made.

The plan, too, is not less admirable as regards its comprehensiveness. There is scarcely a useful pursuit for which instruction has not been provided, both as regards its principles and its practice. And this has become all the more important of late years, owing to the entire break-

ing down of the old system of apprenticeship and the use of machinery in almost all mechanical operations. Youths now learn and only have opportunities for learning to do some special work, or operate some special machine. All-round trained carpenters, thoroughly skilled workers in wood, or iron, or brass, are becoming scarcer every day, and yet the need for them is daily becoming greater.

In founding the Institute, Anthony J. Drexel established the instrumentation for such training, and especially for the combination in that training of sound theory and sound practice. The following chapter will trace in detail the steps by which the plan was realized, but before drawing the present chapter to its close, it is well to repeat that the method which dictated Francis Martin Drexel's instruction to his sons is substantially that which the Drexel Institute has from the first adhered to: facilities for appreciation wedded to training of an immediately practical nature.

Perhaps in this there is something of the striving after good taste which the Victorians prized so much; certainly the greater part reflects the practical genius of the patron saint of all Philadelphians, Benjamin Franklin, whose writings Francis Martin Drexel himself, on arriving in America, admired and sedulously imitated. That Anthony J. Drexel's intention was no general thing, but stood clear in his mind appears from a pleasant anecdote which tells how the Founder, accustomed to stop at the Institute in the course of his daily walk to his office, delighted to watch the students entering the building, and say of them: "I want them to lead happy as well as useful lives."

CHAPTER TWO

THE FOUNDATION

IN DECEMBER, 1890, George W. Childs in the annually published *Public Ledger Almanac* prepared and printed the following announcement:

Mr. Anthony J. Drexel, inspired by the desire to extend a helping hand to deserving youth, has founded in West Philadelphia the Drexel Institute, which by the close of the year 1890 was rapidly approaching completion. When in full operation it will be a worthy monument of his beneficence and a constant memorial of his lifelong efforts to help in a practical manner those who are willing to help themselves.

The building in which the institution is housed was built under the direct supervision of the donor. Measuring 200 feet by 200 feet and four stories in height, it has ample room for the accommodation of from 2000 to 2500 pupils. When completed it will have in the basement wood-working and metal-working schools and the boilers and machinery necessary to supply heat and power to the building. On the first floor will be the library, reading-room, museum and great lecture hall. The other floors will be devoted to schoolrooms and small lecture rooms, while the top floor is to be used as a gymnasium. The building itself, it is estimated, will cost about \$500,000, while \$1,000,000 more has been set aside as a permanent endowment.

The work the Institute is expected to accomplish is the practical education of youths of both sexes in those elemental studies and arts which will be of greatest use to them in learning trades or in the ordinary course of life. It is not designed to teach trades, except incidentally; neither is it proposed to give a general education. On the other hand, it is hoped to supplement the ordinary common-school education by more thorough instruction in the practical application of knowledge, and make the learning of trades simpler by establishing in the pupils' minds the fundamental principles upon which all trades rest.

It is expected that the building will be completed in the early summer of 1891, and that it can be furnished and the school organized to begin its work in September of that year.

Such was the statement of the Institute's educational aims and physical plant shortly before its formal opening by the man who,

next to Anthony J. Drexel himself, was most closely concerned and most constantly consulted in the Founder's enterprise.

THE FOUNDATION

In a tribute to Drexel, Childs speaks of their forty-year friendship, a friendship cemented by their twenty-five-year partnership as owners of the Philadelphia *Public Ledger*. Enough has been said of their constant association in a personal way and in joint benefactions. In sum this may be affirmed: after sifting the numerous rumors of this and that person's alleged influence upon the Founder's action in endowing the Institute, the plain truth seems to be that the impulse to action is to be found in the social-mindedness of Anthony J. Drexel himself, Ellen Rozet Drexel, his wife, and George W. Childs, their friend. In a project which involved all that the foundation of the Institute did, this is not the whole story, but it is the heart of the story. If true, then the Drexel Institute of Art, Science, and Industry was in its inception the result of a memorable joint undertaking.

The founding of the Institute was in no sense experimental; it was rather a renewal in modern educational terms of the old guild spirit. Through a combination of art appreciation and technological and special training in skills and crafts, something of the craftsman's pride, not merely in inventive concept, but in excellence of design and execution, was to be stimulated and revived. Closely linked with this ideal was the interest of the three collaborators in the furtherance of education for women. Indeed, at one time Anthony J. Drexel considered the establishment of a school for girls and had bought property in Wayne with this in mind. He later dropped the plan, concluding that an institution which took young women from their own homes would hardly fit them for future success and happiness. According to Addison B. Burk, one of Childs' editors and then president of the Spring Garden Institute, it was as a result of a visit to the annual exhibition given by that school in Horticultural Hall that Drexel and Childs became interested in an institution of wider scope, and that they sent Burk to New York, Boston, and other cities to report on similar schools and institutes.*

* Fee, Edward Meredith. *The Origin and Growth of Vocational Industrial Education in Philadelphia to 1917*. Philadelphia, 1938, pp. 129-130.



George W. Childs

Of interest also is a letter dated March 25, 1862, and addressed by Matthew Vassar, the founder of Vassar College, to Anthony J. Drexel. This letter, especially notable because at the time of its receipt Drexel was only thirty-five years old, reads as follows:

At the suggestion of George W. Childs Esq., I take the liberty to forward you a pamphlet containing the proceedings of the First Meeting of the Trustees of Vassar Female College.

I trust you will find these proceedings not devoid of interest to an intelligent and generous mind, fully appreciating the importance of educating the mothers of coming generations.

You will perceive, I have not followed the example of your townsman, Stephen Girard; I prefer to be my own executor and see my money faithfully and judiciously expended under my own eye. If God please to spare my life, I hope to witness great and blessed results, flowing from these investments. Permit me to express the desire, that others in your Metropolis possessing liberal means may have hearts of large benevolence.

It is impossible to say what effect, if any, this letter had upon the Founder of the Institute. Considerably later, and then little by little as a result of conversations with his wife, with Childs, with James W. Paul, Jr., and many others—here the minor figures enter the story—his intention to create a school solely for women changed. Chiefly through Childs, he “made a careful examination of the work done by the Cooper Institute, in New York, the Pratt Institute, Brooklyn, and kindred schools for teaching useful arts and industries, and decided that he would establish an institution of a similar kind on the largest basis and the soundest and broadest foundation.”*

It is clear, then, that Drexel was not seeking mere innovation in education. His aim and end was the establishment of a foundation which would supply the basic human need of self-realization through useful and creative effort. His aim, too, was an institution amenable to change as the conditions of society and education changed. Hollis Godfrey, in an address entitled “The Drexel Idea,” illustrates this in an anecdote which quotes the Founder as follows: “I know that the world is going to change, and, therefore, the Institute must change with it, and I do not want to tie it up.” Hence instead of laying down fixed procedures, he initiated a

* Obituary notice of Anthony J. Drexel, *Public Ledger*, July 1, 1893.

policy that the executive officer of the Board should have a dual function: first, to keep constantly in touch with the progress of the world at home and abroad; and second, constantly to report his findings to the trustees as a basis for their broader policies.

The Plan

One of the basic ideas of the foundation, therefore, as it grew in the Founder's mind, was wise and liberal provision for change. But this was by no means all. The Institute was not established in any sense as a charity school, or even as a school which extended its cultural opportunities to students alone. By the phrase "broadest foundations" Drexel meant service to the general public as well as to the student body. Said Bishop Henry C. Potter, one of the Founder's advisers, "He brooded over this large plan, he considered each separate class of those whose higher education he had in mind, and strove to understand both them and their best wants."* It is this concept of cultural facilities extended to the public as a whole which explains the inclusion in the plan for a technical school of a picture gallery, a museum, a great organ, and subsequently the provision of concerts and lectures for free public attendance.

But the Founder realized also that the growing accent in technical education as evidenced by the recent institutions of Pratt and Cooper in Greater New York and of Philadelphia's own Pennsylvania Museum and School of Industrial Art would be a progressive thing. Accent at the Institute had necessarily to be, and was, upon current technological developments in Greater Philadelphia. In the words of James MacAlister, first president of the Institute, "His desire was to establish an institution that would prove helpful in the largest sense to the greatest number of the self-supporting, self-respecting portion of the community, and his mind naturally turned toward those newer forms of education which the marvellous development of the arts and sciences and their applications to the uses of life are so rapidly bringing into existence."

The plan which appears very strongly to have influenced that of Drexel Institute was the organization of Pratt Institute in Brooklyn. Charles Pratt, before he founded the school which bears his

* *Services in Memory of A. J. Drexel*, Philadelphia, 1896.

name, gathered information from many sources, made a survey of the schools within this country like Rose Polytechnic, Terre Haute, and the Massachusetts Institute of Technology. He supplemented such visits with a tour of the leading cities of England, France, Austria, Switzerland, and Germany, where technical schools flourished. At Pratt, as subsequently at Drexel, courses in art, domestic science, commerce, technology, and shopwork were offered. At Pratt, too, courses of free lectures were offered by courtesy to the public.

Drexel's Founder, though his agents studied the foundations of Cooper and Pratt, did not stop there. With characteristic thoroughness, he commissioned his architect for the Institute to go abroad and study foreign technical systems of education before completing the architectural plans of the Institute. Not until these plans had been completed and the site at Thirty-second and Chestnut streets chosen; not indeed, until the actual work had been begun in 1889, was Drexel's benefaction made known to the general public. If greater evidence of his aversion to publicity were needed, this should suffice.

The growth of the Drexel idea to full maturity extended over a period of at least fifteen years. Prefaced by lengthy discussion between Drexel, his wife, and Childs, by trips of inspection and systematic study of vocational schools within reasonable distance of the city, by reports on such institutions both in the United States and abroad—the idea at length stood clear. The final step was the drawing up of the plan for the physical plant, the buying of the land, and the work of construction. Even here, Drexel's approach was conservative.

For the site of the new Institute he chose a lot at the corner of Thirty-second and Chestnut streets, a point where, according to Anthony Drexel Biddle, Drexel and Childs met each morning for their daily walk into town. This location seemed suitable because it was "within easy reach of every part of the city and suburbs by steam, electric, cable and horse cars, and central to the best of the working population of that great industrial city." At that time, of course, the site was within easy walking distance of the old Powelton Avenue Station and the old South Street Station, as well as close to the Baltimore and Ohio.

Drexel engaged a Philadelphia firm of architects to plan his

building, choosing one of the partners, Joseph M. Wilson, of Wilson Brothers and Company, to go abroad, as has been noted, to study similar institutions of Europe before drawing up specifications. Wilson, at that time president of the Franklin Institute, and himself an enthusiastic supporter of industrial education, was well qualified to oversee construction of a technical school. He had been consulting engineer and architect for many railroads as well as designer, among other buildings, of the Presbyterian Hospital in Philadelphia and the main exhibition building and Machinery Hall of the Philadelphia Centennial Exposition. Writes Childs, "Thus the plans took shape, and, after careful study, frequent revision, and constant consultation, the Drexel Institute was erected, almost without . . . limit of cost."

Creed or sex were to be no obstacles to admission to the Institute in the design of the Founder. To quote from Childs again:

It was especially to give girls and women the opportunity of thus becoming successful workers that Mr. Drexel, and in cordial sympathy with him, Dr. MacAlister, . . . devoted so much of the Institute to women. The members of the Board of Managers include a large number of Anthony J. Drexel's own family . . . and also representatives of the great financial, railroad, educational, and other important Philadelphia institutions; and the Advisory Board of Women, in addition to the ladies of the Drexel family, counts on its list the ladies most prominent in every good educational work in active force in the city.

These policies had been decided before the ground was broken for the Institute. Through James MacAlister, president-elect, first president of the Philadelphia Board of Education, and Superintendent of Schools, a total of 160 free scholarships was provided for students in both regular and special courses.

Endowment

Anthony Joseph Drexel gave the Institute a total gift of over \$3,000,000, an estimated million for building and equipment, and two millions for permanent endowment. The Founder lived only a little over a year after the formal dedication of the building and the opening of the school; yet he lived, in MacAlister's words, to see the Institute "grow to a point where its success was assured." During what remained of his lifetime he is said to have stopped in his walk each morning for a short conference with MacAlister

at the Institute, and to have authorized all equipment which "alike for their practical uses and their refining influence, give a completeness to the Drexel Institute that no similar institution in the world possesses in a higher degree." His interest in the Institute never flagged. He authorized the last expenditure needed to bring the Institute to completion only the day before he left for Carlsbad, where he died.

No account of the Founder's benefaction would be complete without a more formal tribute than has yet been given to the interest in the Institute displayed by Mrs. Anthony J. Drexel, a woman as averse to publicity as her husband. While her part in her husband's plans has been referred to, it should be said again that her influence was of the first importance, especially in effecting that provision for the education of women which from the first has held so large a place in the work of the Institute. Even as Drexel acted for twenty-five years as silent partner to Childs in the *Ledger*, so Mrs. Drexel must be regarded as a quiet but active co-founder of the Institute.

Early Gifts to the Institute

Only the enrolment of gifts made during the lifetime of the Founder will be recorded here. Subsequent gifts will be acknowledged under the various administrations of the Institute which received them. Beyond the extensive library which the Founder himself donated, George W. Childs testified to his interest by the gift of his very valuable collection of manuscripts and autographs, and other treasures in art, history, and literature; a collection of fine-line engravings, a collection of ivories, and books on art and typography. Mrs. John R. Fell, later Mrs. Alexander Van Rensselaer, a daughter, gave a collection of antique jewelry and rare clocks; Col. Anthony J. Drexel, Jr., a collection of Arab and Moorish firearms, with specimens of woodcarving. Mr. James W. Paul, Jr., gave a collection of illustrated works, and subsequently, George W. Childs another collection of oriental embroidery, laces, and illustrated works. Mrs. James W. Paul, Jr., another daughter, donated to the Museum a substantial money gift, in memory of her mother.

The family of the late Lieutenant Allan G. Paul, U.S.N., presented the collection of curios made by him, and Dr. Edward

Williams, head of Baldwin Locomotive Works, a large collection of Japanese ceramics. The latter appear to have been the beginning of what came to be known as the Museum of Art and Art Industries, a collection augmented by President MacAlister, who gleaned judiciously in the course of a trip to Europe in 1892. Among donors to the library were George W. Childs Drexel, Mr. John R. Drexel, Mrs. George W. Childs, Mr. George C. Thomas, Mr. Joseph D. Rosengarten, Mr. Clarence S. Dennis, and Mrs. J. Dundas Lippincott.

Limitations of space prevent full and detailed acknowledgments. A library and a museum of distinction, however, were known to have been part of the original scheme of the Founder. He desired to have art collections which would be of value to the several specialties of instruction, and which, besides, would be of interest as a museum for the general public. He gave generously, in life, and generously bequeathed pictures and objects of art at his death. His family has continued his precedent of generosity. Except for a few purchases at the Columbian Exposition of 1893, the Drexel collection owes its being to the gifts of sponsors and friends.

The Founder, through Dr. MacAlister, began the Museum collection in 1890 with the coöperation and advice of the late Sir Philip Cunliffe Owen, Director of South Kensington Museum in London, and Mr. C. Purdon Clarke, Keeper of the India Museum. Textiles, furniture, ceramics, woodcarving, metalwork, and oriental embroideries were purchased. These, during the early years of the Institute, were housed in the east wing, together with the art collection. A more detailed discussion must be reserved for the section devoted to the Museum.

Clearly, Anthony J. Drexel was not alone in the Philadelphia of his era in his sponsorship of a type of education at once liberal and practical for young men and young women. None would have known better than he that no man can singly plan for the well-being and happiness of many lives. Throughout the history of the foundation the friends of Anthony J. Drexel have actively interested themselves in the Institute he founded. From the beginning their coöperation and good offices helped make possible and actual the substance of his vision. Within the first year 1600

students availed themselves of the opportunity so simply and so generously created.

Building and Equipment

The main building of Drexel Institute was begun in 1889 and completed in 1891. To quote the rounded periods of the nineties:

This classic and spacious edifice has already become a landmark on West Chestnut Street. Its walls of buff brick and terra-cotta show conspicuously at a considerable distance. The style of the building is the classic Renaissance, or what would be better described as a modern interpretation of Greek forms. . . . Even the colors of the marble used are in harmony with the scheme of decoration, which consists chiefly of buffs and reds. The chaste dignity of the Greek motives is met with in almost everything about the building, even to the bronze electric light fixtures which were specially designed for the Institute. Additional beauty is lent to the exterior by the ornamental terra-cotta work which is perhaps the most artistic ever applied to a building in this city. The façade on Chestnut Street is broken in the middle by an attic story which projects above the roof of the structure proper. This is the center of the ornamentation, for here the wide frieze which extends around the building between the second and third stories meets above the lofty archway. The portal, which is the main entrance, is twenty-six feet wide at the base and rises to a height of thirty-five feet. The decoration of the arch is elaborate and is made doubly interesting by the addition of a series of finely executed high-relief medallion portraits: Bach, representing music; Raphael, painting; Goethe, poetry; Columbus, navigation; Newton, mathematics; Faraday, physics; Humboldt, natural history; Jefferson, government; Galileo, astronomy; Shakespeare, drama; Michael Angelo, sculpture; William of Sens, architecture. In the spandrels of the arch are medallions of Apollo and Moses. The central object, the keystone, . . . of the arch, is a well-modeled, graceful figure representing the Genius of Knowledge.*

It is significant and not a little symbolic, too, that the twelve medallion portraits represent in a general way the initial eleven departmental organizations of the Institute under the administration of President MacAlister; the twelfth, of which Bach was the symbol, finding expression in public concerts which were given as a part of the lecture program open to the general public. It is

* *Drexel Institute of Art, Science, and Industry. Dedication Ceremonies.* Philadelphia, 1893.

interesting to note, by the way, that the ground at the northwest corner of Chestnut Street at Thirty-second was meant by the Founder to be laid out in gardens and landscaped for the benefit of the students, a plan which never came about. To quote once again:

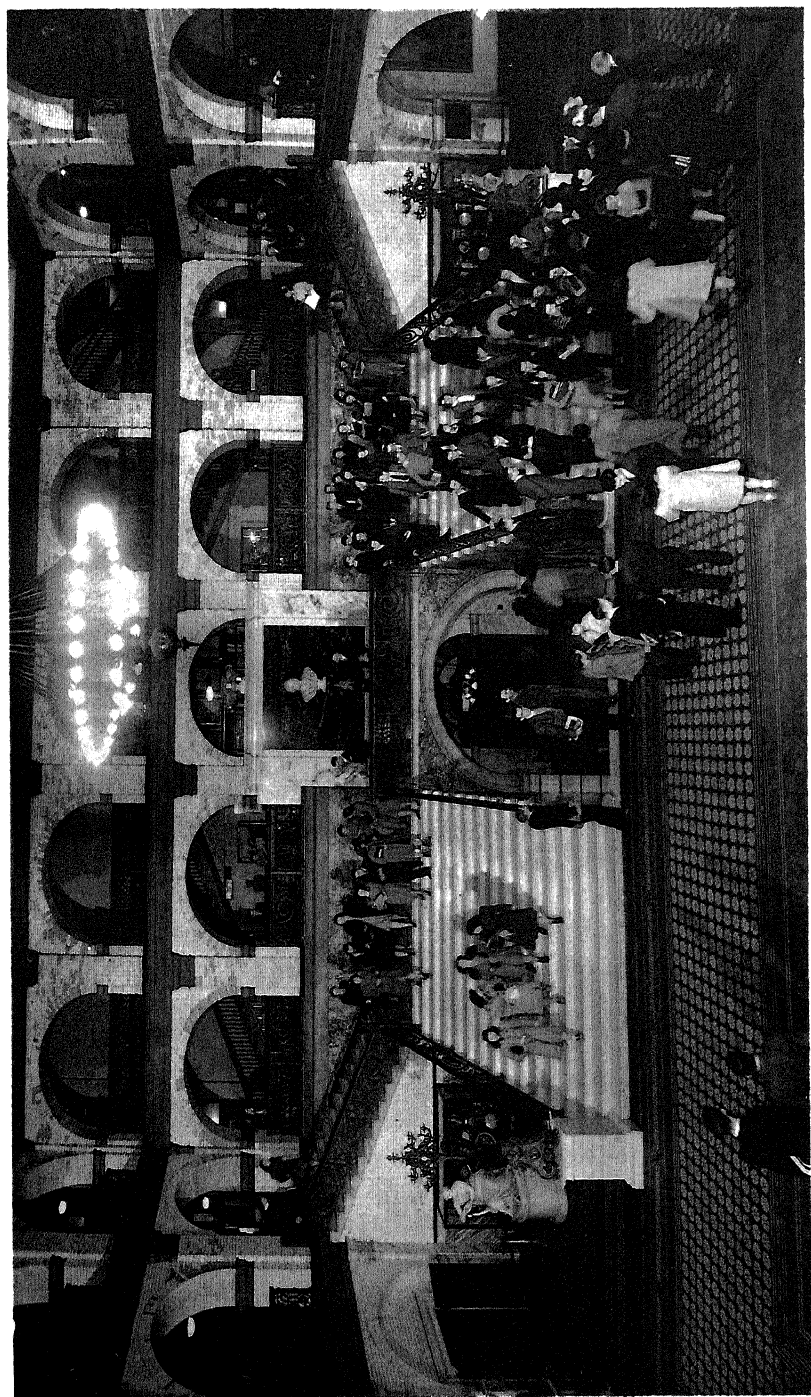
The portal admits to a portico supported on each side by red Georgian marble columns and wainscoted with differently colored marbles. . . . From this portico the visitor passes through the entrance-hall, the ceiling of which is supported by marble columns, to the great court, sixty-five feet square, and fifty-six feet from the floor to the painted glass ceiling. The wide marble stairways, which rise on each side to the second floor, and the cloister-like galleries, which completely encircle the court on each floor, will, perhaps, be found more impressive than the exterior of the building. The court is floored with tiling in which buffs and dull reds predominate. The ceiling is decorated in the same tints with the adaptation of some of the conventional Greek forms.

The walls of the court above the dado of colored Georgian marble are laid with white enameled brick. The arches on each floor forming the galleries are also faced with the same material. On the south gallery this sameness is broken by the introduction of two pairs of red marble columns in each gallery. The stairways are of white Italian marble. . . . The gallery railings and the balustrades of the stairways are of iron grillwork, painted cream-color and heightened with gold-leaf. The design of the railings is very pleasing, and they are said to be specimens of the best ornamental ironwork ever produced in Philadelphia.*

Much has been said of the court, both in its favor and against that part of it which is indisputably rococo. It has been said elsewhere that the court was the inspiration of George W. Childs, who in his own character exemplified a strange fusion of the simple and the gorgeous. The court is an effective and impressive architectural unit. The original building, of which it is a feature, stands as a symbol of the lifelong friendship of Anthony J. Drexel and George W. Childs.

To the right of the court, as one entered, was the office of the president; and beyond that, the entire right wing, a space of seventy feet to a side, housed the Museum. The lecture hall, with chairs for 300 students, occupied the remainder of the right wing, with entry through the passageway which now leads to Randell

* *Ibid.*



The Great Count

and Curtis Halls. To the left of the court, occupying a position corresponding to that of the president's office, was the office of the secretary and registrar. Beyond that, occupying the entire left wing, was the library and reading room, "an apartment one hundred and ten feet long and sixty feet wide. All the tables and cases are of polished oak." On one of the panels of the room was this quotation from Bacon's essay *On Reading*: "Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider."

In order to reach the Auditorium from the great court, the visitor descends a marble stairway; there is also an entrance on Thirty-second Street. This hall is capable of seating fifteen hundred persons. On the stage, which with the screen is richly colored, is the organ, decorated with gold in the style of the Italian Renaissance. Doorways lead from the stage on both sides to the retiring rooms. Over one is the name of Bach, and above it is a scroll inscribed with a chord from one of his scores; a similar specimen of Handel's music ornaments the other doorway. . . . On the south wall of the room, in the recessed arches, are inscribed the names of the great leaders of thought and culture.*

Upon this stage there was (to quote again) "a superb Haskell three-manual organ of the latest construction, an almost unique feature of which is a combination and crescendo pedal by which all or any number of the thirty-two stops can be put on in an instant."

There were, in the first year of the Institute's founding, forty-three classrooms, laboratories and studios on the second, third, and fourth floors. On the second floor were the physical laboratories, as now; and the meeting room of the Board of Managers, today the office of the Dean of the Faculty. Then, as now, chemical laboratories occupied the third floor, close neighbors of the art department. The art rooms, naturally, occupied the north and west exposures of the building. Then, as now, two rooms were allocated to cookery classes—"in one is a model dining room, paneled in oak."

Throughout the presidencies of MacAlister and Godfrey, and for a few years thereafter, the only gymnasium of the Institute occupied the fourth floor front, with access by stairways from either side, one for women and one for men. To judge from early

* *Ibid.*

photographs, the original gymnasium was elaborately fitted with apparatus, designed by Dr. E. A. Hartwell of Johns Hopkins, an authority upon physical culture. The fourth floor housed also facilities for instruction in darkroom work in photography, a subject offered for a few years in a very desultory way.

The original description gives also an account of the basement arrangement. The basement, exclusive of auditorium space, housed rooms and equipment for forge work, manual training, wood-working, and machine construction.

Here, under the court, is the electric plant. There are four sixty-horse-power Westinghouse compound engines made especially for the Institute. Each one drives an Edison dynamo of a new type, the whole supplying a current to twenty-five hundred incandescent lamps. One of the interesting objects in this apartment is the marble switchboard. The plant is also to be used as a means of instructing the students in applied electricity. The boilers are also in the basement, and are connected with the Johnson self-regulating heating apparatus, an ingenious contrivance which controls the temperature in any room in the building after it is set at the required degree.*

From the first year of the Institute's opening constructive use was made of all stationary installations. Students in mechanic arts and engineering supplemented classroom instruction in a practical way by the operation of this machinery under staff supervision.

Such, in brief, was the plant of the Institute at the time of its dedication on December 17, 1891. Long planning, careful investigation, with a view to discovering by what means a permanent social benefaction might best bear fruit, had reached actuality at last.

THE DEDICATION OF DREXEL INSTITUTE

The Drexel Institute of Technology, or as it was then called, the Drexel Institute of Art, Science, and Industry, was dedicated on December 17, 1891. Owing to the recent death of his wife, the Founder was unable to be present, and sent as his proxy the Honorable Wayne MacVeagh, LL.D., who presented the deed of trust. Held in the auditorium, the assembly began a little past three o'clock, President MacAlister presiding.

* *Ibid.*

Quotation from the volume commemorative of the dedication ceremonies printed at Philadelphia for the Drexel Institute in 1893 brings across the years something of the atmosphere of the occasion:

The visitors began to gather in the library, the galleries, and the great court of the Institute as early as two o'clock in the afternoon, and they overflowed the spacious auditorium when the hour for the dedicatory ceremonies arrived. The gathering was memorable, not only because of the thousands of persons which it embraced but because of their broadly representative character and their distinction in every branch of learning, science, and public life. . . .

The auditorium was softly lighted from many windows. As daylight slowly faded during the ceremonies, incandescent electric lights, first on the platform and then about the entire hall, gradually grew brighter and strengthened the waning light of the sun. The beautiful hall was entirely without floral adornment. Nothing but the classic simplicity of the interior decoration met the eye. The occasion needed no accessories. The distinguished audience soon filled the seats; chairs were brought in and placed in the aisles, but, notwithstanding, many were compelled to stand in the rear of the hall. Seated on the platform were nearly two hundred men and women—men whose names are recognized as synonymous with achievement and women who are noted in educational and charitable circles . . .*

The presence of Bishop Potter, of New York, and Bishop Whitaker, of Philadelphia, of the Protestant Episcopal Church, both of whom took part in the impressive ceremonies; Bishop Howe of Central Pennsylvania; Bishop Foss, of the Methodist Episcopal Church; Bishop-elect Horstman, of the Roman Catholic Church, and the Rev. William H. Furness, D.D. betokened the religious sympathy for the Institute.

* A partial list of the more than two thousand present includes: Levi P. Morton, Vice-President of the United States; W. H. H. Miller, Attorney-General; John Wanamaker, Postmaster General; John W. Noble, Secretary of the Interior, all representing the national government; Governor Pattison, the Secretary of the Commonwealth and the Secretary of Internal Affairs, representing the State of Pennsylvania; Mayor Stuart, the Director of Public Safety, and the Director of Public Works for Philadelphia; George W. Childs and other trustees; Bishop Potter of New York; Bishop Whitaker of Philadelphia; Bishop Howe; Bishop Foss; Bishop-elect Horstman; Andrew Carnegie; Thomas Edison; Chief Justice Daly of New York; Chief Justice Paxson of Pennsylvania; the United States Commissioner of Education; representatives from Johns Hopkins, Lehigh, Columbia, the University of Pennsylvania, Bryn Mawr, Swarthmore, Stevens Institute, Pratt Institute, and the Pratt Library; presidents of the Pennsylvania Railroad, the Reading Railroad, the Lehigh Valley Railroad; J. P. Morgan and other business men; Chauncey Depew; Wayne MacVeagh, ex-Attorney-General of the United States; and many others.

The presence of Andrew Carnegie, representing the achievements of the manufacturing world, and Thomas A. Edison, "the sovereign genius of the electric world," indicated the interest of these two great branches of human activity, of which the Drexel Institute is to be a part.

Following the invocation by Bishop Potter and an anthem sung by the choir of St. Stephen's, the Honorable Chauncey M. Depew, of New York, delivered the dedicatory address. It is vital at this point to brief the general line of Depew's address, tracing as it does the progress of education and indicating the place of the Institute within that general frame. Said Mr. Depew:

All the conservatism of centuries has crystallized about the university. Every radical effort to break up old systems and proceed upon new lines has met the combined hostility of faculty and alumni. They point to results, to the long list of men eminent in the professions and in literature, whom the schools claim to be their product and examples. . . .

Teachers have been so compassed and pinioned by legend, tradition, and environment that they have been unable, except within a recent period, to emancipate the curriculum.

Steam, electricity, and invention have hardened the conditions of competition and multiplied indefinitely the number of specialties. In the briefest time, and almost without warning, we are brought face to face with the problem that education and prosperity, education and a livelihood, education and morals, education and law, education and liberty, are indissolubly welded together.

Depew traces the course of education, first the monopoly of the clerics; and then the broadening to comprise the learned professions. Only in our own time, he declared, has the effectiveness of the old education as given by the colleges and universities, been questioned.

The old education simply trained the mind. The new trains the mind, the muscles, and the senses. The old education gave the intellect a vast mass of information useful in the library and useless in the shop. . . . The superiority of the graduate of the technological institute is that he has passed the apprentice period and learned more than the apprentice could ever know.

To survive in the face of the competition which is the law of our age, technological training is essential. Invention and the specialized skills which follow it require mastery of fundamental

principles and practices: superficial skills cannot keep pace with change. Neither the common school nor college has yet met this need of the non-professional worker. "This splendid Institute of Art, Science, and Industry leads the column and points the way."

Stressing the relative newness of practical educational training, Depew observes:

It is a remarkable illustration of the failure of the schools to divine and meet the changes of the century that the first suggestion of a manual training school came from Victor Vella-Vos, Director of the Imperial Technical School of Moscow, in 1868. The Centennial Exhibition in the city of Philadelphia, in 1876, gave to educators in America and Europe some idea of its scope and necessity. The old education had accomplished splendid results during the first hundred years of our Independence. We entered upon our second century by an immediate experiment with the new. After twenty-five years of trial this superb foundation is an enduring monument to its success.

And of the Institute's facilities for the education of women:

One of the chief glories of the new education is the advantages it gives to women. It recognizes and enforces their equal rights to every intellectual and industrial opportunity which school or college can give to men. It has created for them the Harvard Annex and Barnard, Vassar and Wellesley, Smith and Bryn Mawr. It has opened the doors of this institution that they may enjoy all its privileges. . . .

Our boasted progress has known neither age nor sex . . . It threw upon woman burdens for which she was unprepared. There were only few things for which she was trained, though she was fitted for many. . . . It is still the reproach of our times that women receive less pay than men for the same work equally well done. But chivalry is an emotion, not a habit, and sentiment is left at the shop door in the business world. It is through the power they acquire here, and in institutions like this, that women will be able to fight for and win their rights.

The speaker closes with a short summation and a note of prophecy which those who know the Institute feel it has justified in no little measure:

The Drexel Institute is not a charity. . . . It is a practical and beneficent illustration of the Divine injunction, "Thou shalt love thy neighbor as thyself." . . . It is a noble recognition of the needs of the youth of both sexes by placing before them the weapons and the armor for the battle of life and training them in their uses. It will nurture and instruct

a better and broader womanhood, a braver and more intelligent manhood, and a more patriotic citizenship; and as the years increase and graduates multiply, the Republic will be enriched in its material prosperity and receive new vigor and earnestness in its moral and intellectual life.

The significance of Depew's speech and its importance in the history of the Institute lies in this: in it he defines the service of the new Institute as part of a nation-wide trend toward an ever closer and more immediately practical liaison of education with business and industrial advances.

At the conclusion of Depew's address, a presentation of the deeds of trust, both for the building and for the endowment, was made for Mr. Drexel by the Honorable Wayne MacVeagh. The deeds were formally accepted by President MacAlister in a speech of some length. An analysis of MacAlister's speech is best deferred to the chapter which deals with his administration. In it he states more clearly, perhaps, than in any other place, the initial administrative policy of the Drexel foundation. Bishop Whitaker concluded the ceremonies with the Benediction.

CHAPTER THREE

JAMES MAC ALISTER

IN HIS speech of acceptance of the deeds of trust at the Dedication Ceremonies of the Institute, James MacAlister spoke as follows:

The specific object of the Institute is to open new and higher occupations, involving knowledge and skill, to young men and women. This it proposes to do by furnishing opportunities for education in the principles and practice that underlie such of the industrial arts as will be included in its curriculum. The productive value and rank of any kind of labor depend upon the amount of mind that is put into it. The craftsman differs from the common laborer in just this respect. It is the divorce between design and execution that has led to the deterioration that has been going on in nearly all the industrial arts for the past three hundred years. In the great days when the common articles of life were made that are now treasured for their beauty in our museums, the artificer and the designer were one; they made with their own hands what their imagination had created. And with this work went a joy which has passed out of the life of the worker. It is to bring back into the school the careful training that was formerly given by the master workman to his apprentices in the shop that the Drexel Institute has come into existence.

Thus the first president of the Institute, and the close consultant of both Drexel and Childs during the period of its planning, interprets its specific object. But he voices a caution too:

It should be remembered that an institution like this is not made in a day or a year. We shall move slowly at first; we shall have to solve some difficult problems; we shall need to think deeply and work cautiously; but there is a bright and ever-opening future ahead. Bearing the great purpose of the founder in mind and counting upon the confidence and encouragement of the public, we shall push forward the development of the several departments as rapidly as circumstances may permit; and we have faith that in time the Drexel Institute will realize all that the splendid foundation which it has received gives cause to expect.

To one who reviews the history of the Institute since the day of its dedication, MacAlister's words have something of the ring of a prophecy—a prophecy long since fulfilled. This chapter and following chapters will trace the problems that faced successive administrations of the Institute and will show the way in which these problems have been met.

JAMES MAC ALISTER

1840-1913

In every successful enterprise, of whatever kind, there must be a fortunate accord of men, circumstance, and time. It has been stated that the original Institute building, in its integrity and square substantiality, expresses the character and quality of Anthony J. Drexel; that the court within it, austere in essential design, yet laced with display, suggests in part the personality of George W. Childs, whose inspiration it is said to have been. It is not strange that by agreement Drexel and Childs should appoint to the chief office of their creation, James MacAlister. MacAlister, militant in the cause of technological education and successful in its promotion, was deeply convinced of its future prominence in education. No position could have been more congenial to his interests and talents than the administration of the Institute. To MacAlister belongs every credit for launching the Drexel Institute of Technology upon a course which it has in all essentials followed during the three decades since the close of his presidency.

James MacAlister, born in Glasgow, and having received his early schooling in Scotland, emigrated with his mother and two sisters to Wisconsin in 1850. Subsequently graduated from Brown University in 1856 and from Albany Law School in 1864, he practiced law for a short interval before his appointment as superintendent of schools in Milwaukee. Interested in education from the first, he was active in educational affairs in an administrative capacity from 1873 until his death.

His leadership as regent of Wisconsin normal schools in sponsoring progressive educational methods made him a logical man to assume the headship of the Philadelphia public school system when it was reorganized in 1883. Prior to that time in Philadelphia, schools had been administered within their respective wards,

a system very dubiously effective by reason of political control. Under the reorganization plan a delegate was named from every ward to a central board of education. MacAlister was invited to head this board as superintendent of the Philadelphia schools.

Formal, or in the phrasing of Chauncey Depew, "head" education followed a fixed tradition which persisted in the face of a strengthening technological trend. MacAlister, both in Milwaukee and later in Philadelphia, worked untiringly for the inclusion in the public school curricula of modern classics and of training along technical and vocational lines. Enthusiastic sponsor of progressive educational ideas, he lectured and wrote widely for the promotion and acceptance of those ideas.* Through his inflexible will, fixed convictions, and lucid and persuasive tongue, MacAlister in the course of his eight years as head of the Philadelphia schools won his fight both for modern classics and for technical and scientific training in the schools. No man was more sympathetic than he with the purposes of the Institute's Founder.

MacAlister's methods in promoting and establishing the place of the new school, though viewed with skepticism at the time, proved themselves by results. His methods of promotion were not orthodox, but they were clear-sighted, economical, and business-like. To casual examination, his preliminary announcement and his formal circulars which followed it present a picture of chaos; but closer scrutiny reveals a method which made up in flexibility what it lacked in system. Sixteen hundred was the student enrolment for the Institute's first year. It is true that this enrolment may have been owing in part to MacAlister's close connection with the public schools. If so, additional credit must be given to the astute judgment of Drexel and Childs in the selection of the Institute's first president.

To appreciate the shrewdness of MacAlister's method of trying departments by ordeal of student demand, one must examine

* *Manual Training in the Public Schools of Philadelphia* (1890), one of the earliest educational monographs put out by New York Teachers College; *Art Education in the Public Schools* (1893); various manuals of instruction. Besides giving lectures at the Drexel Institute, he also spoke at Johns Hopkins, the University of Pennsylvania (of which he was a trustee from 1885-1897), the Harvard Summer School, and at many educational meetings. It was at a meeting of the Modern Language Association held at the University of Pennsylvania in 1887 that, following in the footsteps of Benjamin Franklin, he urged the radical procedure of including the study of Dante, Cervantes, Shakespeare, and Goethe in the school curriculum.

critically the general prospectus of the Institute which he prepared and entitled the *Preliminary Circular of Information*. This *Circular*, to be examined in detail in the following section, is at once a restatement of aim and an organizational panorama of the first year of Drexel's founding.

THE EARLY CONSTITUTION OF DREXEL INSTITUTE

The Institute's first officers were three: James MacAlister, president; Lucina A. Ball, secretary and registrar; and Alice B. Kroeger, librarian. These, at any rate, are the only names to appear in the *Preliminary Circular*. Of other personnel, MacAlister quaintly adds "The Faculty and Instructors, so far as appointed, will be announced before the opening of the Institute." For these early years, however, he does list a Board of Trustees, a Board of Managers, and an Advisory Board of Women. In 1891, the Board of Trustees comprised Anthony J. Drexel, president; George W. Childs, vice-president; James W. Paul, Jr., secretary; Anthony J. Drexel, Jr., treasurer; and Richard C. Dale. The Board of Managers, elected in rotation for terms of three years, included the same men and in addition Joseph G. Rosengarten, George C. Thomas, J. Lowber Welsh, John R. Drexel, George W. Childs Drexel, John R. Fell, Herbert M. Howe, M.D., William V. McKean, the Rev. Wilbur F. Watkins, D.D., Joseph M. Wilson, Addison B. Burk, the Rev. T. K. Conrad, D.D., Joseph Moore, Jr., Edward Morrell, George B. Roberts, Walter George Smith, and Edward T. Steel. These two Boards were merged into one Board of Trustees of twenty-four members when, shortly after the deaths of Drexel and Childs, the Institute was, in 1894, incorporated under the laws of Pennsylvania.

The first Advisory Board of Women, also elected in rotating triennial terms, had as its members in 1891 Miss Anna Hallowell, chairman; Mrs. Eliza S. Turner, secretary; and Mrs. George W. Childs, Mrs. John R. Fell, Mrs. J. Dundas Lippincott, Mrs. James W. Paul, Jr., Mrs. John R. Drexel, Mrs. Anthony J. Drexel, Jr., Mrs. Joseph P. Mumford, Mrs. J. G. Watmough, Mrs. T. K. Conrad, Mrs. J. Bellangee Cox, Mrs. George W. Childs Drexel, Miss Mary Dulles, and Mrs. George R. Preston. Although this Board gradually ceased to function, the Drexel Institute of Technology owed from the first a debt of gratitude to the Advisory Board of



James MacAlister

Women and their successors, for a notable feature of the Institute's history has been its stress upon equal opportunities in vocational training for women as well as men. In the Philadelphia area its initiative and leadership in the field of education for women has been without challenge in home economics, in library science, and in secretarial studies.

Before outlining the courses of instruction in the new Institute, MacAlister writes in a preamble:

Drexel Institute has been founded by Anthony J. Drexel of Philadelphia, for the promotion of education in Art, Science, and Industry. The chief object of the Institute is the extension and improvement of industrial education as a means of opening better and wider avenues of employment to young men and women. It is the founder's desire, however, that the plan of organization should be comprehensive, providing liberal means of culture for the masses by means of lectures, evening classes, library, and museum. The general design upon which the Institute will begin its work is outlined below, but it is probable that modifications may hereafter be made as the growth of the several departments and the experience gained in conducting them may require.

Before proceeding to a description of the "general design" of the Institute, a note of reminder is in order. It must be borne in mind that prior to 1915 Drexel Institute was not collegiate; it was a school for the study of design and for vocational training in the most general and best sense. Its object was to foster the revitalization of the guild spirit in students and to offer facilities to the general public for cultural improvement. It functioned as a highly elastic unit, each "department" a law unto itself, and many specifying, for a time, their own application blanks and entrance requirements. There were no "group" courses in the modern sense, and one or more courses might be taken for certificate or diploma, though even these were not clearly differentiated.

If the term "department" be defined in the collegiate sense as a division of instruction sufficiently varied within its field for a student to undertake it as a major toward a degree, then departments did not exist. It is conservative to think of Drexel "departments" of instruction throughout the administration of MacAlister simply as courses or combinations of courses, reserving the term "department" for later definition. In a word, Institute training in

the beginning years was neither wholly secondary nor in any strict sense collegiate. Loosely and tentatively formed, ready to change with the times or to add or subtract departments and courses according to student enrolment, Drexel's primary aim was to train young men and women for genuine excellence in a variety of practical skills. It set small store by mere certificates and diplomas, though these symbols of attendance or achievement were granted from the first.

One other factor should be borne in mind. Departments and their faculties alike were appointed in order of student demand. Though eleven "departments" were published, actual instruction in any was contingent upon student registration. The sequence seems logical enough in a school expressly shaped for quick response to public need. It did, however, at first view, differ startlingly from the accustomed academic order of departmentalization, faculty appointment, and finally student enrolment. MacAlister's approach may account for the skepticism which his initial moves evoked in academic circles. Its practical result was to establish on a permanent basis only those courses which served the major needs of Greater Philadelphia. For a generation it served well the purposes of an institution then unique in Philadelphia education.

THE "DEPARTMENTS OF INSTRUCTION"

Writes MacAlister: "The work of the Institute will be arranged under the following general divisions:

- I. The Art Department
- II. The Scientific Department
- III. The Department of Mechanic Arts
- IV. The Department of Domestic Economy
- V. The Technical Department
- VI. The Business Department
- VII. The Department of Physical Training
- VIII. The Normal Department for the Training of Teachers
- IX. The Department of Lectures and Evening Classes
- X. The Library and Reading Room
- XI. The Museum

"Independent of the regular departments, students will have

the option of taking such courses as they may elect and can advantageously pursue."

Such was the provisional arrangement made by President MacAlister in 1891. Let it be repeated here that, without clear understanding of his flexible and admittedly tentative organization, the mutations and attenuations, disappearances and reappearances of some of these "departments" bewilder and mislead. A later discussion of the changes initiated after 1913 by President Godfrey will show how the "departments," by then grown to eighteen, were merged into three schools. Until the analysis of the Godfrey administration is reached, it is well to consider each "department" as an arbitrary grouping of courses, faculty members giving instruction sometimes in as many as three, according to their skills and the demands of enrolment.

The Art Department, one of the most elaborately organized of the charter departments, offered the following courses: Freehand and model drawing, perspective; study of the antique in outline and light and shade; painting in oil and water color; theoretical and applied design, decoration, historical ornament; decorative sculpture; architectural drawing; mechanical drawing; normal course for the training of teachers and supervisors of art; lectures on the history of art. It is interesting to note that of all the departments offering extensive curricula, Fine Arts alone in the beginning offered a systematic course of four years, all others extending from one to three. From the first, too, its normal course, a type of training paralleled in several departments, filled a very present need in the Philadelphia public schools.

The Department of Fine Arts was in its first decade one of the most flourishing divisions of the Institute. In 1894, a School of Illustration, established under the direction of Howard Pyle, famous artist and illustrator, proved extremely popular. Other courses flourished under such instructors as Clifford Grayson, James L. Wood, Charles Gaffy, Colin Campbell Cooper, and Nicola D'Ascenzo, who has since become nationally famous as a creator of stained glass, and who in these early days gave a course in classical interior design. Many of the Drexel family and members of the Board of Trustees evinced special interest in the Department by offer of prizes. The first scholarship, apart from the free scholarships established at the Institute's founding, was

the Frances Drexel Paul Scholarship, awarded for the first time in 1895, and given to the Art Department in memory of his wife by the then president of the Board of Trustees, James W. Paul, Jr.

Owing to increase of enrolment and heavier demands upon the budget, the Trustees were forced to curtail some of the services of the Institute; and in April, 1905, they reluctantly announced discontinuance of courses in fine and applied art, except for those in Architecture, feeling that "these courses might better be dispensed with than any of the others, inasmuch as Philadelphia is amply provided with special art schools of a high order."

It should be noted that, though Architecture in the day courses also suffered eclipse after 1915, one division of applied art was affected not at all. Applied art courses separately offered under early Domestic Arts were never dropped, and continue today in the School of Home Economics. Architecture has, since 1922, undergone a gradual process of reëxpansion in the Evening School.

The Scientific Department as outlined in the *Preliminary Circular* comprised only courses in physics and chemistry, but to these mathematics was very soon added. In the first year of the Institute, courses in physics covered instruction in the phenomena of electricity. For nearly thirty years the triad continued in one form or another until, in the post-Godfrey era, each subject was given according to the needs of the School concerned.

The Department of Mechanic Arts, states MacAlister:

is intended to furnish a three-years' course of education for boys who have finished the elementary school. It will aim to fit young men for a business or industrial career, and to bring them into sympathy with the industrial tendencies of the times. A thorough course of manual training will be provided, and this will be supplemented by carefully devised courses of instruction in drawing, mathematics, science, and such other branches as are needed for a comprehensive but practical secondary education.

Mechanic Arts thus began as a parallel for secondary school education. Yet from the first it also provided a preparatory training for the more advanced technical courses of the Institute. Shortly after the coming of Dr. Godfrey and as a result of his reorganization of courses at collegiate level, Mechanic Arts was discontinued.

The Department of Domestic Economy, forerunner of the present School of Home Economics, was to offer:

a liberal course of instruction and training for girls and young women in everything pertaining to the organization and management of the household. It will be thoroughly practical, while aiming to broaden the culture of young women in directions which have been heretofore neglected in their general education. The course will extend over two years, and will embrace cookery, millinery and dressmaking, the building, sanitation, decoration and management of the house, household economy, human physiology and hygiene, business forms and accounts, freehand drawing, elementary economics, and physical training.

The story of the Department of Domestic Economy has been one of constant growth and expansion. Under Dr. Godfrey's administration, after being accredited to grant degrees, it emerged as the School of Domestic Science and Arts, now the School of Home Economics, offering today five major curricula.

The Technical Department, to quote again from the *Circular*: "will embrace the special courses which are intended to prepare young men and women for practical pursuits." This extraordinary department comprised the following courses: applied electricity, machine construction, mechanical drawing, photography, house decoration, woodcarving, cookery, millinery, and dressmaking.

The Technical Department, as one might expect, dissolved in its second year, the first three courses combining with the Scientific Department to become ultimately the School of Engineering. House decoration, cookery, millinery, and dressmaking formed the Domestic Science and Domestic Arts departments.

The Business Department was to provide:

thorough training in stenography, typewriting, bookkeeping, business forms and accounts, and correspondence. The course will also include practical training in the writing of English and familiar lectures on the terms and operations of manufacture, commerce, finance and law.

The aim of the course is to prepare young men and women for the higher forms of employment as clerks, bookkeepers, and secretaries. It may be completed in two terms. . . .

Thus began what was at times also called the Department of Commerce and Finance. Whatever its designation, the Business Department for three decades trained men, but especially women

eager to explore the new world of business so recently opened to them. Interesting is the mention of the semiannual term, for not until 1919, with the adoption of the coöperative system, did the Institute organize upon a quarterly basis.

Apparently the Business Department fostered the earliest instruction in English offered at the Institute, a practice soon followed by other departments. The Business Department, always a popular division of the Institute, is today the School of Business Administration, offering five majors for degree.

The Department of Physical Training "will afford superior opportunities for the physical culture of girls and young women. Special courses . . . will be arranged, morning, afternoon and evening, for children and adults. . . . Lectures on Physical Culture and on Personal and Public Hygiene will be given in connection with this department."

Head of the department for many years was Maude G. Hopkins; to her credit and to that of the Institute is the fact that Drexel assumed the leadership in offering excellent facilities for physical training for women in the Philadelphia area. Additional courses for children and women, for some time encouraged by the late Sarah Drexel Van Rensselaer, were dropped during the Godfrey administration, when use of the gymnasium was restricted to students of the Institute. The Department of Physical Training in its work with women is one of the few which has had an uninterrupted history.

Courses for men also were offered under the direction of J. Peterson Ryder, a man who deserves the gratitude of all Drexel alumni for his unceasing efforts over a period of many years in behalf of those interested in a systematic program of competitive athletics.

The Normal Department for the Training of Teachers was another of the charter departments of the Institute. Writes MacAlister:

The modifications which the elementary and secondary schools are gradually undergoing in the direction of art, industrial, and physical education . . . are creating a necessity for instructors specially prepared for these kinds of work, which has thus far not been recognized by normal schools and colleges.

The Normal Department will undertake to supply this need and will

provide courses of instruction and training that will be thoroughly practical as well as liberal in their scope and character. . . .

The Normal Department embraced the following courses: a course for teachers and supervisors of elementary art instruction; a course for teachers of manual training, of domestic economy, of physical culture, of cookery, and a special course for teachers of sewing, millinery, and dressmaking.

Though normal training was formally announced as a department, its courses appear from the first to have been given as a special service under each respective department. There is no evidence that it ever operated functionally. In it, at any rate, one sees the archetype of the present Department of Education and Psychology, which today carries forward teacher training in the Schools of Home Economics and Business Administration.

Initially, *Lectures and Evening Classes* were joined in a single department. Consonant with the desire of the Founder to afford cultural opportunities to the general public, evening lectures on subjects of popular interest were given in addition to those devoted to science and art in their industrial applications. These lectures were given during the winter months for the benefit of both students at the Institute and the public. Organ recitals, too, were given in the afternoon and evening from time to time with purpose to promote wider interest in the higher orders of music. Such public entertainments, together with the frequent exhibits of painting, sculpture, woodworking and design, made the Institute during its first fifteen years a cultural and musical center for Philadelphia. Both lectures and concerts proved extremely popular, the average yearly attendance often reaching 35,000 or more.

Two of the concerts, at Christmas and Easter, were given by the Drexel Chorus, which owed its being in part no doubt to the Founder's love of music, and in part to the disbanding of the Philadelphia Chorus. Drexel organized its Chorus in 1893 under Charles Schmitz, director of music at the Institute; classes in choral music, thereafter used as training groups for the Chorus, had already been organized in 1892. Choral music flourished at the Institute until its formal discontinuance in 1908.

Evening classes began in October, 1892, and in the early years of the Institute continued until the end of March. During MacAlister's administration, evening courses paralleled those of the

day; and until 1922 instruction was given by the day faculty. As in the Day School, courses were for certification or diploma. The subsequent history of the Evening School has continued the original Drexel tradition in offering specialized instruction of a non-degree nature.

The Department of Lectures and Evening Classes had an uneven history. Choral Music, as noted, dropped out; public lectures and concerts were discontinued by President Godfrey; but evening classes, continuing an unbroken tradition of service, have become the Evening Diploma School.

Of the *Library and Reading Room*, MacAlister writes, "the needs of the several departments will be the primary consideration in the formation of the library, and the special collections in art, science, and technology will therefore be made as representative of the best literature in these subjects as possible."

A feature of the Library Department was to be the Reading Circles, "for pursuing select courses of reading," each under appropriate faculty guidance. MacAlister adds, "A school for the training of librarians will be organized at an early day in connection with the library." From this it is evident that the "Library Class" of 1892, retitled in 1900 the Library School, may be regarded as a charter department. The Library School was discontinued under President Godfrey, reappearing once more in 1922 as the School of Library Science.

The Museum "will be chiefly technical in character, and besides examples of the best art-industrial work will embrace the materials and processes involved in their production."

The Institute thus had from its earliest years both its art and industrial displays, which were meant not merely for the student in art and technical courses, but for the enjoyment of the public as well. A permanent "Commercial Museum" was begun in the winter of 1895 under the guidance of Professor Edwyn Leibfreed by the class in commercial geography. The class solicited leading business houses for exhibits, and met with a "large and generous response."

Such was the organizational panorama of the Drexel Institute of Art, Science, and Industry in its beginning. A word remains to be said of admission and fees. For admission to a "regular" or "systematic" course—terms implying progressive instruction of

from one to four years—a “good elementary English education, equivalent to what is implied in the usual grammar school course of instruction,” was required. Applicants unable to satisfy requirements for admission to these courses had to undergo examination; but this requirement did not apply to non-systematic or “special” courses, or to the evening classes.

The express desire of the Founder was that the advantages of the Institute be brought within reach of the largest possible number—indeed, his first intention had been to make all courses free. MacAlister dissuaded him from this design by pointing out that such a plan was subject to abuse by many who would not seriously avail themselves of the opportunities offered. Yet, as endowment was ample at that time, charges in both day and evening classes were exceedingly moderate. The complete course of two years in machine construction under the Technical Department, for instance, cost the student only \$25 per term, plus small laboratory fees for chemistry and physics. Total tuition cost, including fees, for two years of instruction in mathematics, mechanical drawing, physics, chemistry, shopwork in wood and iron, pattern making, machine construction from working drawings, and theory and practice of the steam engine came to less than \$150. Fees for a two-year course in domestic science totalled about \$120; and in 1892 the charge for a five-month term of instruction in the Business Department, including supplies, was \$23.50. Fees for most of the evening courses were even more moderate: they averaged \$3.00 per term.

It was essentially under the departmental organization outlined in the foregoing sections that the Institute continued until 1913, the year of James MacAlister's death.

DEVELOPMENT

1892-1913

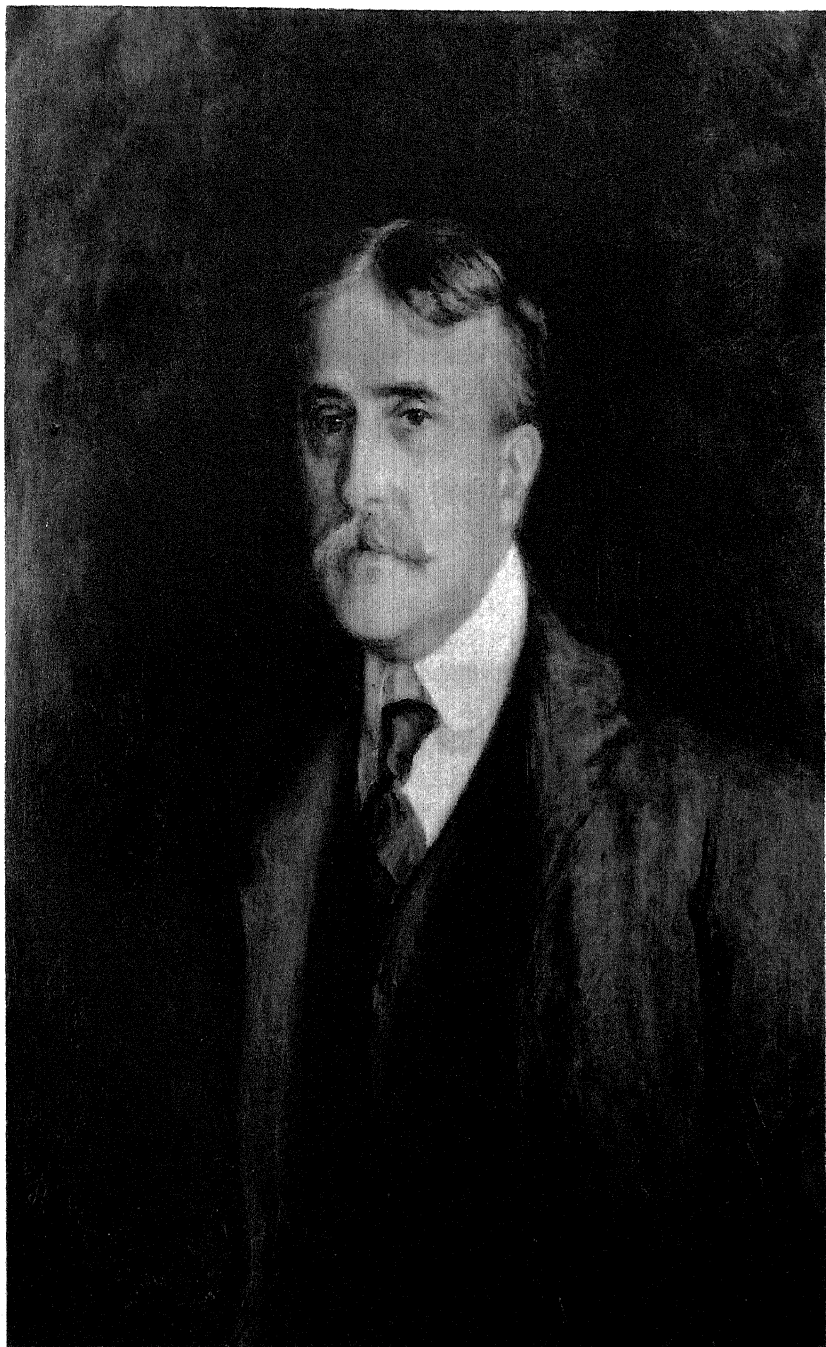
General organizational plans had been set in motion by January, 1892. Registration for classes opened on January 4, 1892, and work was begun in February. By September the Institute was in full operation. Concerning its service, the *Public Ledger Almanac* of 1894 notes, “The first year of active work in the Drexel Institute of Art, Science, and Industry came to an end June 1, 1893. It was

successful far beyond the expectations of the managers or officers. . . . Encouraged not only by the interest in the work and the improvement manifested by the pupils, the courses of instruction for the Institute year 1893-94 were extended and new courses added, and the classes are even larger than during the previous year."

Such rapid expansion created an almost immediate need for increased facilities, and in 1893 a row of dwelling houses on Thirty-second Street was acquired and fitted for additional laboratory and classroom space. At about the same time, a double dwelling house on Chestnut Street east of the Institute was placed at the disposal of the Institute by Mr. James W. Paul, Jr. In 1899, the Institute leased still another house on Chestnut Street above Thirty-second for use of the School of Architecture.

But space-needs still remained pressing, and in 1901 the Trustees voted to erect a new building on the site of the double dwelling east of the main building, the ground being given to the Institute through the generosity of Mr. Paul. This building, first called East Hall, is the present Randell Hall, renamed in honor of one of the Institute's most loyal friends, Miss Lillie Bell Randell. Randell Hall, first occupied in the fall of 1902, and erected at a cost of \$250,000, was finished in the style of the original building, and had as a feature a large picture gallery in which the pictures recently bequeathed by John D. Lankenau, brother-in-law of Anthony J. Drexel, might be suitably housed.

Such clear evidence of the fulfilment of a need for a new kind of educational institution in Philadelphia would have gratified the Founder, had he lived to see it. His death at Carlsbad, June 30, 1893, was a serious blow to the Institute, and even more to President MacAlister, who was accustomed to have him drop in almost daily for brief consultations on policies and other matters. A solemn memorial service was held at the Institute January 20, 1894, and was attended by distinguished personalities in government, education, and business, as well as by personal friends and by the faculty and students of the Institute. The principal address was made by Bishop Henry C. Potter of New York. The occasion was further saddened by the absence of Drexel's friend and successor as president of the Board of Trustees, George W. Childs, who even then lay sick on what was to be his deathbed. Thus,



James W. Paul, Jr.

within little over two years the Institute lost the two men whose joint creation it had been.

A Carrara marble bust of Anthony J. Drexel, done by Moses Ezekiel, was presented to the Institute in 1905 by his daughter, Sarah Drexel Van Rensselaer. It was dedicated on May 3, with an address by Bishop Potter. The bust was unveiled where it stands today, on the landing of the double stairway overlooking the Great Court. Behind the bust is a screen of classical design in colored marbles. The central panel, which bears the inscription, is of verdantique. The screen was designed by Professor Arthur Truscott, then director of the Department of Architecture at the Institute.

A few weeks after the unveiling of the Ezekiel bust, a statue of Anthony J. Drexel by the same artist was dedicated in Fairmount Park, Philadelphia. This statue was presented to the city by John H. Harjes, friend and business associate of the Founder. The speaker at the dedication ceremonies was the late James M. Beck, sometime Solicitor General of the United States. Shortly before the unveiling of the Harjes statue was to take place, Mr. Beck wrote to Dr. MacAlister requesting that the students of the Institute be excused from their classes to attend the ceremony. To Mr. Beck's request Dr. MacAlister sent a courteous but firm refusal. Referring to the unveiling services at the Institute, he wrote in part as follows:

Under these circumstances, it would not, I think, be desirable for the students to participate in the dedication of the public statue of Mr. Drexel to be erected in Fairmount Park. It would break in upon their work, which at this time is a serious matter, and coming so soon after the public dedication of the memorial at the Institute, it might not be altogether in the best taste. Having in mind the quiet, retiring disposition of the founder, I think it would be better that the students' interest be concentrated upon the educational institution which he founded and with which they are immediately connected. I think you will agree with these views.

Whether or not Mr. Beck agreed with "these views" is now beside the point. What at present matters is that Dr. MacAlister's words express much of his rugged, almost stoical, character, and his unbending insistence upon what he considered good form.

Although the Institute had suffered an irreparable loss in the

death first of Anthony J. Drexel and then of his successor to the presidency of the Board of Trustees, George W. Childs, loyal members of the family and friends continued the work so well begun. Elected president of the Board upon Childs' death, James W. Paul, Jr., son-in-law of the Founder, served faithfully and well in that office until his own death in 1908. He was succeeded by another son-in-law, Alexander Van Rensselaer, whose wise and kindly tenure from 1908 to his death in 1933 carried the Institute through the difficult years of war crisis and internal reorganization to its present established position.

Other members of the family and friends have added to the facilities of the Institute. Colonel Anthony J. Drexel's gifts to the Museum, Mrs. George W. Childs' presentation of the Rittenhouse Clock, and the George M. Standish Collection given to the library in 1898, to mention only a few, are ample evidence of continued interest in the Institute. The Charles E. Etting Fund, created in 1911 under the will of Charles E. Etting and confirmed through the generosity of Mr. Newbold Etting, stands as the Institute's first general scholarship fund and continues to benefit students today.

EARLY FACULTIES

1892-1900

The *Preliminary Circular* of the Institute contained only oblique reference to an instructional staff. Nevertheless, a faculty, new and entire, had to be chosen. This important duty fell to Dr. MacAlister alone. The delicacy of the task becomes clear in the light of the complex organization of the new Institute. MacAlister showed himself a shrewd judge of men. Discriminating choice of personnel was, in all likelihood, the most notable of his many great services to the Institute.

Many members of early faculties are, of course, later referred to. It would be pleasant to write of the others, did not limitations of space forbid it. In spite of the seeming ungraciousness of choosing a few among many, President MacAlister's judgment is amply witnessed by a simple listing of some of those who from 1892 to 1900—in some instances for years thereafter—carried on much of the Institute's teaching.

The initial organization of the Drexel Institute of Art, Science, and Industry embraced eleven departments. Among the directors and teachers who conducted the work of these departments in the early years were these: William L. Robinson, water color; Clifford P. Grayson, painting; Charles Grafty, modelling and sculpture; James L. Wood, drawing; John J. Dull and Arthur Truscott, architecture; Howard Pyle, illustration; Ernest A. Congdon and Abraham Henwood, chemistry; William J. Hopkins, physics; J. Peterson Ryder and Maude G. Hopkins, physical education; Dr. A. P. Brubaker, physiology and hygiene; Helen Spring, Caroline L. T. Burgess, Caroline A. M. Hall, May Haggenbotham, Ellen Morris, and Jennie Collingwood, domestic science and arts; Parke Schoch, Carl Lewis Altmaier, Seymour Eaton, and John T. Holdsworth, commerce and finance; Frederick W. Speirs, history and economics; Harriet L. Mason, Annie P. Shedden, Alice M. Brennan, and Lillian M. Dalton, English; John F. Rowland, mechanical drawing; Lieutenant William L. Bailie, mechanic arts; Arthur J. Rowland, electrical engineering; Thomas Smith, mechanical drawing and machine construction; Charles H. Wheeler and Katharine F. Dill, mathematics; Alice B. Kroeger, librarianship; Charles M. Schmitz, choral music; James Dickinson, organist.

In selecting these men and women Dr. MacAlister sought ideas, teaching ability, and personal force, not mere academic symbols. No one acquainted with the personal and educational qualifications of his early faculties will doubt that Dr. MacAlister found what he sought.

Fortunate, too, was President MacAlister in the selection of his most important administrative assistant, Miss Lucina A. Ball, first secretary and registrar of the Institute. Owing in part to departmental self-management, and in part to Dr. MacAlister's close personal oversight, the administrative staff of the Institute remained for some years small in number. The early registrars were both recording and financial officers.

Miss Ball's exact contribution during the formative years is not easy to assess, but there is reason to believe that it was important even before her appointment as secretary. The Founder, his friend Childs, and Dr. MacAlister consulted her upon problems of organization while she was still connected with Pratt Institute. Coming from Pratt, she brought to her position at Drexel valuable

administrative experience. She found satisfaction and joy in the opportunity to use this experience in a new educational adventure.

Miss Ball resigned in 1897, and was succeeded by her assistant, Miss Frances J. Dill, who had been connected with the Institute almost from the beginning. In 1909, Miss Dill resigned, being succeeded by Miss Frances E. MacIntyre, whose retirement, after more than thirty years of service, was announced as this history approached completion. Because of the actual and traditional importance of the office of the Registrar in the administration of the Institute, it is a fortunate circumstance that this office from first to last has been ably and gracefully directed.

EARLY TRADITIONS

James MacAlister's chief efforts were directed, of course, to the important tasks of guiding the administrative policies and choosing the instructional staff of the Institute to its highest good; but he proved himself a man of broad vision in recognizing the need of social contacts within and without the Institute as well. Many of the customs begun under his watchful eye have become cherished traditions of the present day.

From the first year of the Institute, students and faculty joined in celebration of such occasions as Washington's birthday and the Christmas season. The Institute had been in operation barely six weeks when the first celebration of Washington's birthday occurred. According to MacAlister's announcement in the *Public Ledger* of February 20, 1892, "This celebration is the first of a series which will be given to commemorate important events in the history of the country, with the purpose of thus cultivating a strong and intelligent appreciation of our political institutions." The event was apparently very successful, for many had to be turned away for lack of room. This was one of the very few occasions when the Founder consented to appear in public, for the subsequent account of the occasion states that the presence of Anthony J. Drexel and George W. Childs on the platform was greeted with hearty applause.

It was so too with the Christmas celebrations which were—and are—signalized by festooning the Great Court with evergreen. In a note commenting upon the decoration of the Court by students, the *Drexel Institute Bulletin* of 1904 remarks:

This is a praiseworthy custom, which began early in the history of the Institute and never fails to interest everybody in any way connected with it. The decorations, which are designed and put in place by a committee representing the student body, are a beautiful tribute to that feature of the buildings which first strikes the mind of a student, and doubtless remains the longest in his memory in his after life.

Commencement was another occasion of festivity. It is curious to note that at the close of the years 1892 and 1893, each department apparently fixed its own commencement date and held its own ceremonies. With the year 1894, however, all departments joined in an Institute commencement. Descriptions of these early commencements, as reported in the *Public Ledger*, are both interesting and quaint to the modern ear. At the 1894 commencement, for instance, the graduates formed in lines in their own rooms and then marched to the auditorium; the "young ladies" wore white, and "many of them carried flowers tied with orange, the color of the Institute." Following the customary speeches, the classes were presented by their respective heads of department. As each class was called, the graduates ascended the steps to the platform and took their places on the stage. "A single piece of parchment, tied with the Institute colors, was then handed the Director by President MacAlister, who formally presented it to the class as a whole, and this was passed along the line of graduates and returned to the president."

Of the Commencement of 1898, the *Ledger* notes:

As the graduates from the Junior Domestic Science course took their places, Dr. MacAlister called attention to the fact that each had made her own dress. Probably no works of art ever underwent so thorough an inspection as these dresses, and the bright roses with which the young dressmakers had adorned themselves were pale beside their glowing cheeks.

It was following this commencement that the Institute first acquired an American flag. MacAlister announced that the students had been arranging to provide the nation's colors but that Mr. Paul, president of the Board of Trustees, had said that he wished the honor of presenting the flag to the Institute. The entire audience, therefore, retired after the exercises to the farther side of Chestnut Street, and with due ceremony the flag was run up its

staff on the Chestnut Street front of the building. When the flag broke to the breeze, "the factory whistles for a dozen squares around greeted it with the shrillest of shrieks."

The commencement of 1899, too, was memorable; for it was on this occasion that the Drexel Ode, "Hail! Drexel Institute," written by one of the graduates of the Library Class, Miss Virginia Castleman, and set to music by the Institute organist, Mr. James Dickinson, was first sung.

Social activities appear during MacAlister's administration to have been fairly well confined to such general celebrations; for he was an austere man and believed that the first duty of the Institute was educational. In 1902, for instance, he sent a notice to the faculty calling attention to the fact that students were lingering in the classrooms after four o'clock, and requiring that all rooms be vacated at that hour. He added, "Hereafter all lights will be turned off at four o'clock. Any students turning the lights on will be disciplined." Yet he seems, too, to have recognized the need of some provision for bringing the students together; for as early as 1899 he organized a committee consisting of two students from each department and proper representatives from the faculty to act as a general committee in charge of arranging for social gatherings to be held during the year.

In a more general way, MacAlister encouraged the use of the Institute buildings for wider purposes, in conformity with Anthony J. Drexel's wish that his foundation serve the entire community. In Drexel's first year, more than a dozen groups, including such organizations as the American Association for the Advancement of Physical Education, the International Typographical Union, and the National Conference on University Extension held their meetings under the auspices of the Institute. Important visitors from various parts of the United States and Europe came to study the Institute as an example of a new type of education. Such visitors included a member of the Royal Commission on Technical Instruction and one from a similar Commission on Secondary Education from the British Isles; the Rev. Edward Everett Hale; and Senator-elect B. R. Tillman and Governor J. G. Evans of South Carolina, who inspected the Institute with a view to incorporating some of its features in the new Winthrop Normal and Industrial School for Girls at Rock Hill, South Carolina.

Throughout the general consideration of MacAlister's regime, one factor has to some extent obscured the real administrative gift of the Institute's first president. That is the difficulty of visualizing now an earlier Institute in an earlier day—a school not accredited to grant collegiate degrees, nor yet diplomas of proficiency which corresponded to those of the Philadelphia high schools. In effect, the Institute stood as a kind of intermediary between the two, and provided a type of instruction which, taking cognizance of broad cultural values, was centered basically upon the skilled and practical applications of knowledge to artistic, scientific, commercial, and industrial skills.

In charting a middle course between the extremes of utilitarian and theoretical knowledge, and in the organization and direction of a complex institution along this course, James MacAlister showed administrative gifts of the highest order. Conscious of the difficulties which confronted him and his associates, he conscientiously strove to fulfill in the Institute the generous hopes of its Founder.

MacAlister's awareness of Drexel's anomalous position in American education was keen. In a letter dated January 5, 1900, to Edward S. Martin, and referring to a listing of institutions in the New York *World Almanac*, MacAlister writes:

You will understand that one occupying my position is a little sensitive about the place of the Drexel Institute with reference to other institutions of a similar character, but you are not to be held responsible for an omission on the part of another publication. I think myself that the World's Table is pretty liberal in its classification of colleges and universities. The fact is that such institutions as the Pratt and the Drexel have not yet found their right place in the educational economy of the country, and it is not easy to define just what that position should be. In the Drexel, the work undertaken includes instruction and training in some branches of both secondary and college rank. Some of it is well-organized academic instruction, and a good deal of the scientific and technical education is higher than in some so-called colleges and universities. A considerable number of the students do special work, but this is true also of not a few of the higher institutions of learning, in which short courses not leading to a degree are provided. Many of the colleges not only offer elective courses, but they give to persons unable to pursue regular courses the opportunity to obtain as much education of a special character as their circum-

stances may permit. The tendency everywhere is to get away from the hard and fast curricula to which all students formerly were required to conform. In these respects, the old colleges and the new institutions do not stand so far apart. The Drexel, and I suppose the same is true of the Pratt, represents especially the newer forms of artistic, scientific, technical, and industrial education which the social needs and the educational ideals of the present have made a necessity; and its rapid development and growth show that the "Institute" has come into existence in response to a natural demand. The term "Institute" is the most indefinite in the educational vocabulary, and just what form these schools will ultimately take and how they are to be classified must be left to the future to determine.

It is of some interest to note that in 1905, the question of a more regular collegiate status for the Institute actually was considered and was decided negatively. In April of that year, a committee of the Trustees was appointed to look into the possibility of the conferring of degrees by the Institute. The committee reported conclusively that "the Drexel Institute could not be placed in the position of granting degrees to its graduates unless there were radical changes, especially as to the lengths of courses of instruction."

MAC ALISTER'S SERVICE TO THE INSTITUTE

For over twenty years, James MacAlister faithfully guided the destiny of Drexel Institute; but in 1913 failing health forced him to resign from the office, to take effect Commencement Day, June 5. Appointed President Emeritus by the Board of Trustees, he did not long survive to continue in the honor, for on December 11, 1913 he died. The most telling tribute to the integrity of the man himself and the magnitude of his service to the Institute is to be found in a resolution of the Board of Trustees which followed his resignation:

. . . How fully the Founder trusted and relied upon him, with what insight and cordial sympathy he entered into and developed the plan of the Founder, the success with which he organized and carried through the Institute from its formative days of experiment to its present eminent position among the schools of the country, is recognized and appreciated by all: Dr. MacAlister has long been known as among the foremost educators and administrators of the time. The

Board will testify not only to their high admiration for the unwearied zeal, ability and learning which Dr. MacAlister has brought to the performance of his responsible task, but also to those high and earnest qualities as a man which have made association with him a pleasure and a privilege.

In his retirement from active work of the Institute, Dr. MacAlister carries with him not only the esteem and respect of the Board, the faculty and the community in which he lives, but that which is of greater value and significance, the affectionate gratitude of thousands of eager young men and women who have passed out of the gates of the Institute inspired by his precepts and equipped by the knowledge there obtained, for all that makes life richer and happier.

It is not extravagant to say that in his latter years the welfare of the Institute was James MacAlister's life. In it he found a self-realization which is given to few. Able administrator, man of vision, and educational pioneer, MacAlister, Drexel's first president, found under his hands a plastic well suited to his shaping. Appraisal of his work in its perspective shows that his shaping was good.

CHAPTER FOUR

HOLLIS GODFREY

UPON the retirement of Dr. MacAlister in 1913, Mr. Horace Churchman, a member of the Board of Trustees, assumed the duties of president. Mr. Churchman was invested with all the powers of the office, but his appointment was from the first regarded as temporary. To facilitate the instructional routine of the Institute during the incumbency of Mr. Churchman, who was without educational administrative experience, the Trustees created the office of Dean of the Faculty and chose Professor Arthur J. Rowland for the post.

Appointed on June 26, 1913, Mr. Churchman served until December of the same year. During this time, with the approval of the Trustees, he invited Dr. Hollis Godfrey to make a survey of the Institute. There is reason to believe that in part the original purpose of this survey was to study the facilities of the Institute for training city employees of Philadelphia. Dr. Godfrey's investigation eventuated in a plan for the total reorganization of the internal structure of the Institute.

Soon after the completion of his survey, Dr. Godfrey was elected to the presidency of the Institute. He took office on December 1, upon retirement of Mr. Churchman to his duties as member of the Board of Trustees.

HOLLIS GODFREY

1874-1936

Hollis Godfrey, native of Lynn, Massachusetts, was educated at Tufts College, Harvard University, and the Massachusetts Institute of Technology. Interested from the first in technical education, he taught for a time at the Massachusetts Institute of Technology, and between 1906 and 1910 directed the scientific work of the School of Practical Arts in Boston, establishing the while a reputation as teacher, writer, and engineering consultant. Contributor to various magazines, chiefly on scientific subjects, he



Hollis Godfrey

won, in 1908, wide acclaim by his book entitled *The Man Who Ended War*. Of this work the *New York Times*, January 19, 1936, in reporting Dr. Godfrey's death, observed: "His ingenuity in conceiving the mechanical devices of future wars displayed in the book, six years before the beginning of the World War, led to his working with Elihu Root, General Leonard Wood, and Howard Coffin in creating the Council of National Defense of the United States." Between 1916 and 1918 Dr. Godfrey was chairman of the Council's section on engineering and education.

On coming to Philadelphia, Dr. Godfrey quickly impressed important elements in the city by the force and brilliancy of his personality. He at once began the direction of important engineering surveys in Philadelphia and elsewhere, and soon entered the public service of the city. In 1913, at the suggestion of Mr. Churchman, he was asked by the Board of Trustees to undertake a survey of Drexel Institute, and soon thereafter was invited to assume its direction as president. In this capacity he served from 1913 to 1921, extending his services and very real talents to the federal government in the years of the first World War. During his presidency Dr. Godfrey received numerous awards, among them honorary degrees from American and Canadian universities and membership in various learned societies.

Clearly, Hollis Godfrey brought to the Institute diversified administrative talents. Through his sometimes sudden and arbitrary exercise of these talents, his administration was one of abrupt and turbulent change; but from his presidency emerged a modernized Institute, the progress of whose remodeling the following sections will trace.

General Administrative Changes

In an autobiographical sketch entitled *Hollis Godfrey, Himself*, President Godfrey affirmed his purpose as head of Drexel Institute: "To make Anthony J. Drexel's great foundation at Drexel Institute the finest possible technical school of college grade where men and women can learn to live happy as well as useful lives."

His first act was to initiate administrative changes that looked toward the incorporation of the Day School as a college. But in his initial attempt to regularize the standards of the school at a

clearly defined academic level, he was confronted by many obstacles. The eleven original, highly independent "departments" had increased to eighteen. Dr. Godfrey's first task, then, was to effect mergers of those which could be merged and to make provision for those which could not.

So far as engineering was concerned, courses in the pure and physical sciences, the technical courses, and the Department of Electrical Engineering were in 1914 consolidated to form the modern School of Engineering, a school which then offered majors in civil, electrical, and mechanical engineering, and later, in 1923, chemical engineering. Under the School of Engineering Dr. Godfrey incorporated historic Mechanic Arts as a lower school whose function was in part preparatory to the divisions of the School of Engineering, and in part vocational.

Similarly, domestic economy underwent change. The department had early divided into three: the Department of Domestic Science, the Department of Domestic Arts, and the Junior Course in Domestic Science and Arts. President Godfrey, dropping the third, shaped the two remaining into the single School of Domestic Science and Arts, subsequently the School of Home Economics. This School retained many of the old applied arts courses which had been given under its direction from the first. It may be said that today in the School of Home Economics something of the spirit of the fine arts has been revived in work being done, under Miss Ardenia Chapman's direction, by Mrs. Brandau and Mrs. Dillmore.

Changes affecting the original Business Department or Commerce and Finance, as it was also called, are described elsewhere. It need only be said that out of this original department emerged the Secretarial School, later the School of Business Administration. The Library and Reading Room were discontinued as departments. Then, in what was perhaps his most sweeping and unpopular move, Dr. Godfrey recommended the discontinuance of the distinguished Library School.

To the retrospective view, it now seems clear that in 1913 the internal structure of the Institute stood in need of simplification—which, in this instance, means modernization. These sweeping changes and consolidations were far more than old courses with new names. Where before the individual departments specified

curricula varying from one to four years and awarded certificate or diploma upon completion, each of the new schools offered systematized two-year courses leading to certification and four-year courses of college level leading to degree. The latter marks one of the most important steps ever taken by the Institute. It was largely owing to Dr. Godfrey's foresight and persistence that the Institute petitioned for the right to grant the degrees of B.S. in Engineering, in Secretarial Work, and in Domestic Science and Arts.

The application was acted upon favorably for the School of Engineering in 1914, and for the two other Schools in 1917. The natural consequence of the new *status quo* was the organization of regulation four-year college curricula, and the consequent dropping of all systematic courses of secondary level. The two-year courses for certification still given represented two years of junior college grade. Single courses were retained under title of "Extension."

During Dr. Godfrey's presidency the Evening School continued in its original and unbroken tradition of offering technical training at non-degree level. Perhaps the major influence of the Day School reorganization—if such influence there was—lay in a parallel *trend* toward uniformity, necessary forerunner of the extended courses for diploma today. This trend, discernible as early as 1908, marks the beginning of prolonged systematic non-degree instruction which, now fully developed in the Evening School, has resulted in curricula requiring from six to eight years for completion.

Early in the Godfrey administration some thought was given to evening instruction at college level. Though never operative, a Drexel Institute College Evening School was announced in 1918. During the war years both regular and coöperative curricula of college grade were also planned. Whether or not there was thought of degree appears obscure. Course groups for certificate or diploma continued throughout Dr. Godfrey's administration—and these, as well as day instruction, were given by the regular faculty of the Institute. Not until 1922 did Day and Evening faculties become essentially separate bodies.

Such were the principal changes made by Dr. Godfrey in the internal structure of the Institute. If the discontinuance of the

Library School be left out, these changes—so sweeping and abrupt after twenty years of strict department autonomy—were good. Arbitrary at first view, they express the Institute's steadfast tradition of modifying its services to meet changing social and educational demands.

At the time of the Institute's founding—and even through the turn of the century—a high school education was held to be adequate preparation for ordinary purposes. But by 1915, owing to more formal requirements in all the callings for which the Institute prepared—engineering, commerce, domestic economy, and teaching—collegiate training had become a vital prerequisite. The mark of professional education had become the college degree.

Drexel Institute and other technical institutions were caught in a powerful drift. In consequence, against strong and sincere opposition, Dr. Godfrey undertook the reorganization of the Day School and carried it through. It is this reorganization that is chiefly associated with his tenure of the presidency. Dr. Godfrey subjected the Evening School to no material alteration. Under him the Institute as a whole did not change radically: it did assume a dual function, offering instruction of collegiate grade when such training had become essential, but continuing unbroken its tradition of specialized secondary and non-degree training for the benefit of the many.

Higher Instructional Standards

An essential element in Dr. Godfrey's plan to make uniform the educational standards at the Institute was additional professional training for the faculty. Good in theory, his driving insistence upon increased training for Drexel teachers met opposition. Traditionally every department had operated for years as an autonomous unit, and the instructors, though many lacked degrees, were experienced and capable teachers. A clear statement of Dr. Godfrey's provision appears in the *Institutional Budget* for 1916:

Each year Drexel intends to send a third of the faculty away to see the best work done elsewhere, giving each faculty member, before he starts, his transportation and six dollars a day for every day away. . . . As the institution believes in the education of the student, so it believes in the education of the faculty; it pays the first fee of any member of

the staff who wishes to take graduate work at the University of Pennsylvania or Columbia.

In addition to providing for extramural professional study, Dr. Godfrey invited distinguished educators to lecture on their specialties before the faculty, usually in the Art Gallery. Such programs, by implication compulsory, were not congenial to all members of the faculty; and in certain instances feeling assumed a personal quality which resulted in the resignation of some and the passive resistance of others.

In the partial alienation of faculty is to be seen one instance of Dr. Godfrey's mistaken judgment as an administrator. His was a germinal mind. With startling suddenness he would chart and then propose a plan. But at times though projects might be publicly announced, they were not always fully carried through. Nevertheless, Dr. Godfrey's policy gave impulse in the direction of increased professional preparation for teachers at the Institute. Drexel has continued the policy, but with less immediate insistence. It should be added that under President Godfrey staff salaries at the Institute were standardized, and rose sharply above pre-1913 levels; and that he established the first plan for faculty disability insurance benefit.

TWENTY-FIFTH ANNIVERSARY OF DREXEL INSTITUTE

The twenty-fifth anniversary convocation demands extended treatment, both because of its commemorative value and because of the nature of its decisions. From it emerged a concept of collegiate training that went far beyond considerations of individual or parochial success. Held at a time of national crisis, attended by leaders in education, finance, and government, the celebration took for its keynote "The Service of the College to the State."

The convocation was of two days' duration, Friday, October 19, and Saturday, October 20, 1917. President Godfrey, in an opening address on Friday morning before a highly formal assembly, pled for the mobilization of the technical resources of the nation. "We have heard so much concerning the mobilization of industry," he said. "This I have translated to mean the mobilization of civil powers in which education will be the great part. I believe that spiritual ideals come only through education. Education and in-

dustry finally will come together. We now are of one idea and purpose, and that is to serve."

In this statement Dr. Godfrey voiced his implicit belief in an expanding horizon for technical education and an ever increasing rapport between such education and industry. He pointed out that the United States should take warning from the example of the universities of England, which had let their men go to the trenches instead of using their knowledge in technical fields. He advocated not only the keeping of college men under training, but of sending back from the army those who had not yet completed their technical education. The colleges, he affirmed, had been called upon to work coöperatively with the general staff of the army and with the civil staff of the government.

"This one cry, the mobilization of the technical power of the nation as a war measure," in the succinct statement of the *Philadelphia North American*, "was carried through the whole program and emphasized by each speaker in turn."

Dr. Samuel P. Capen, then of the United States Bureau of Education, now Chancellor of the University of Buffalo, strongly supported Dr. Godfrey's line of reasoning by impressive figures. Reports from ninety-eight American colleges, he said, showed their enrolment in 1917 to be 14.2 per cent less than in 1916 because of student enlistments. Leading engineering schools showed a decrease in enrolment beginning at 14.3 per cent and averaging nearly 30 per cent, with similar rates of decrease in six large agricultural colleges. Approximately one-third of the three upper classes of thirty engineering schools were in the active service of the nation.

Dr. Capen's address illustrates why the establishment of a Reserve Officers' Training Corps at Drexel, as at other colleges, had to be deferred until 1919, though a unit of the Students' Army Training Corps was established in 1918. Though military training in the colleges had been recommended, a shortage of officers in the regular army made the assignment to the colleges of competent instructors impracticable. Shortage of military equipment was also a factor. Capen urged that engineering schools follow the plan, initiated already by some colleges, of organizing courses in military map-reading and surveying, bridge building, telegraphy, radio, and machine servicing. Dr. Capen also made clear

that a vast and untapped resource of potential military usefulness had been opened up to the government by the mobilization of research workers, and of university, college, and school laboratories.

Another speaker of the morning was Dr. Frederick C. Ferry, then president of Hamilton College. Just as Dr. Capen had outlined the services that university men might offer the nation, so Dr. Ferry dealt with similar possibilities for college women. His suggestion was the more extensive offering of courses in home economics, especially those in cooking and preserving foods, economical housekeeping, in Red Cross work and home nursing, in sewing, and in practical gardening.

In the following year, 1918, war courses for women were begun at the Institute in dietetics, in occupational therapy, and in preparatory work for the civil service. It is not to be inferred from the close correlation of Institute effort with trends outlined by its anniversary speakers, that the convocation was in any way local. It was, in fact, nationally representative, and its delegates returned to their communities to sponsor a type of education directed toward specific and useful services to the nation.

The war period, therefore, accompanied as it was by constructive and unified action on the part of educators, helped to disseminate throughout the nation the type of education which Anthony J. Drexel did so much to forward in Philadelphia. Dr. Ferry gave force to the importance of completing professional training in the following words:

The President will be asked very soon to issue an executive order to put a stop to the wholesale running off of college students to the front, such an order as was issued to keep the students in the medical colleges home.

This is absolutely imperative. The greatest constructive period in the world will follow this war. The demand for trained men in all lines—financial, economical, social, and industrial—will be ten times greater than it has ever been before. Where will the trained men come from if the colleges are depleted? Canada already realizes the disastrous situation.

Other speakers of the morning were Dean Frederick L. Bishop of the University of Pittsburgh, who reported on studies being made of the technical needs of the army by national engineering

bodies in coöperation with the General Staff; Dr. Henry Suzzallo, then president of the University of Washington and chairman of the State Defense Committee of Washington, who spoke on the work of committees on education in State Councils; and Dr. Guy Stanton Ford, member of the Federal Committee on Public Information, who outlined the efforts being made to give the public a clear idea of the causes of the war and what the United States stood for in the world crisis.

After a one o'clock luncheon for the speakers and guests at the Institute, the afternoon session convened. A discussion "on ways in which the educational institutions of the nation might best serve their country in time of war" was opened by former President John Grier Hibben of Princeton and Dr. P. P. Claxton, then United States Commissioner of Education.

Mr. Frank A. Vanderlip, former president of the National City Bank of New York and chairman of the National War Savings Certificate Committee, also spoke, on the importance of teaching the American people generally the place of political economy in their daily lives. The convocation then adjourned for the afternoon to attend a reception and tea given by Dr. and Mrs. Godfrey at their home in Cynwyd.

Present at the evening session, opened at a quarter past eight in the Academy of Music, were the faculty and the students of the Institute and the academic guests.

All were attired in gowns and mortar board caps. The first floor was reserved for the students, while their relatives and friends occupied the balconies. . . . The exercises were preceded by an academic procession of the officers, members of the Board of Trustees, faculty, teachers, and guests. They assembled in the rear of the stage, marched around the rear of the auditorium and down the main aisle to the stage. A feature of the procession was the appearance of Dr. W. W. Keen, eminent surgeon and president of the American Philosophical Society, the oldest society of learning in the country, and Dr. Edwin A. Grosvenor, president of the Phi Beta Kappa fraternity, the oldest Greek letter fraternity in America.*

Dr. Godfrey, presiding, opened the exercises with a commemorative address before the assembly which included distinguished educators of Canada and over 150 college and university presi-

* *Evening Public Ledger*, October 20, 1917.

dents and government officials of the United States. These guests and an audience of over 3000 listened to both the exposition of the democratic purpose of Drexel Institute as outlined by its president and the history of the development of the Institute as detailed by one of its trustees, Charlemagne Tower. Tower, sometime ambassador to Russia, Austria, and Germany, restated Anthony J. Drexel's purposes in founding the Institute, and affirmed their full realization.

Feature of the evening was an address by Sir Robert Falconer, distinguished educator and president of the University of Toronto. In an address entitled "The Education of the English-Speaking Peoples," he affirmed that "experience, teaching the English-speaking race since the days of Alfred and Arthur, had decreed, through the present world war, that a united English-speaking people shall guarantee to all nations, even the smallest, liberty and lasting peace." On this prophetic note—ironic in the light of current events—the colorful evening session closed.

The following morning, Saturday, an assembly was opened at ten o'clock, attended by the entire student body in academic costume. To this body, Dr. Robert J. Aley, president of the National Education Association, addressed a request that it subscribe as civilians to the following pledges of loyalty: to inform themselves on the progress of the war; to inform authorities of dangerous aliens; to work for food production; to conserve wheat, sugar, and dairy products; to sponsor the Liberty Loan; to subscribe to the war chest; to aid families of service men; to hope and have patience; and to prepare themselves to make up the loss of men in industry.

Mr. Bruce Taylor, principal of Queen's University, Montreal, and former chaplain of the Forty-second Canadian Highlanders, spoke on experiences at the front. His words, too, seem curiously contemporaneous: "Canada has nearly exhausted her man power, money, and war materials in the fulfilment of her pledge to raise 500,000 troops for her mother country, and she now passes the torch to the United States. America must give, give, and give again, of her resources, money, and men if the war is to be won."

Luncheon was served in the Great Court and the surrounding balconies. No formal meeting followed, the guests merely acting upon resolutions already prepared. On a note of informal socia-

bility at a dinner given in honor of the guests by the Trustees at the Bellevue-Stratford the twenty-fifth anniversary celebration came to a close.

Significance of the Anniversary

To the casual view there appears all too little that is truly commemorative in the proceedings of the Institute's twenty-fifth anniversary. All things considered, however, Dr. Godfrey was clearly justified in highlighting the occasion by a comprehensive discussion of a problem which in a critical time occupied the minds of student and educator alike: the service of the college to the nation. In the two days of the convocation a long step was taken toward defining the place of technical education in the broad field of national life. Quite apart from this, the celebration brought the Institute and its facilities into high prominence. If in retrospect the occasion seem unduly ceremonious, one senses in its design and direction a shrewd promotional brain.

The practical results of the anniversary deliberations, hastened no doubt by the pressure of the times, quickly began to appear in the expanding curricula of the Institute. In 1918 the School of Domestic Science and Arts added courses in dietetics to its curriculum. In the same year the Secretarial School listed preparatory courses for the civil service, a tendency beginning to be apparent today. In the Evening School specialization looking to the federal service was also observable. In 1919, too, came the establishment of the Reserve Officers' Training Corps. Most important of all was the impulse given to coöperative training, especially in engineering, an impulse which by 1919-1920 found coöperative work a fixed policy at the Institute. It is evident, therefore, that though the consolidation of departments into schools predated the Twenty-fifth Anniversary by nearly four years, the second phase of President Godfrey's broad changes may be said to date from that colorful celebration.

THE COÖPERATIVE PLAN

In January, 1919, Dr. Godfrey formally initiated the four-year plan of coöperative education in the School of Engineering. Through Ira W. Fisk, then dean, all curricula of the Institute

were arranged on a quarterly, or roughly seasonal basis, the academic year comprising fall, winter, spring, and summer terms.

Forerunner to the coöperative plan had been a measure of vocational experience sponsored by Dr. Godfrey under the name "controlled summer work." As early as 1915, controlled summer work was required in the School of Engineering, and later, though less formally, in the School of Secretarial Studies and that of Home Economics. The provision is not to be confused with systematic coöperative courses characterized by alternate periods of study at school and practical work in industry. Formal coöperative organization upon the quarterly plan began in the fall of 1919; actual work in industry in 1920.

By 1920, omitting from consideration the Library School, the Institute stood substantially as it is today. It is not to be inferred from this, however, that the traditional policy of offering special courses was wholly abandoned in the Day School. On the contrary, such courses continued and still continue to be given under certain circumstances. A two-year curriculum also continues in one important instance to be given. The differentiation between courses for diploma and degree, however, was clarified once and for all in the Godfrey administration.

THE "DREXEL IDEA"

In 1919, President Godfrey in an address entitled "The Drexel Idea" reviewed his services to the Institute during the course of the preceding six years. The following is the substance of the address:

The Board of Trustees had, in 1913, empowered him to make a survey of the need for technical education in Philadelphia, and the best means of supplying it. The results of the survey, he averred, had determined his policies at the Institute; for the survey had disclosed equipment badly in need of repair and renewal; an increasing deficit; teachers inadequately paid, many inadequately prepared; students lacking in proper entrance preparation; and courses insufficiently standardized.

By a policy designed to correct these conditions, Dr. Godfrey affirmed that he had put over \$100,000 into new equipment and improvements; erased the deficit by 1915; advanced teachers' salaries 41 per cent; and increased the average years of teacher

preparation between one and two years. He had dropped courses competitive with those of other local institutions and had raised standards in all the schools of the Institute. As examples of heightened standards, he added that the Drexel courses in engineering had been publicly praised in Washington; that the course in dietetics had been first to be recognized by the Army Medical Corps; and the Secretarial School was the first to be made official for statistical secretaries of the federal Civil Service Commission. Such was President Godfrey's own interpretation of his services to the Institute.

While his statements in general are clearly made, one or two require a little further explanation. Chief of these is the sum of \$100,000 put into new equipment and improvements. It was during Dr. Godfrey's administration that the Institute in 1915 acquired the land to the east of East Hall on which Curtis Hall was later to be built; that in 1916 the first Practice House was acquired and furnished; that in 1918 the first student houses for women under direct Institute control were leased and placed under the direction of Miss Mabel Dickson Cherry; that in 1919 the first regular Summer School of the Institute was initiated; that some of the antiquated equipment of all three schools was rehabilitated; and that an attempt was made both to make the art and museum treasures more accessible to student appreciation and to provide the first meeting place for students to gather for social relaxation. The last is best described in Dr. Godfrey's own words, in another address, delivered in 1917, entitled "Student and Faculty Activities in a City Technical School":

The first result was the transformation of the picture gallery into the Women's Union, through the furnishing of the great room with groups of comfortable and beautiful furniture, with the introduction of a piano and a big phonograph; and the room became a general gathering place. For the ninety days preceding the change the average attendance in the picture gallery was two. For the ninety days following the change the average attendance in the Women's Union was 182.

Following the same plan, one of the two great rooms in which the Museum is housed has been made into the reception room of the Institute. In a community of some seven hundred, there is a constant stream of visitors—parents and friends of the students, guests and visitors of the faculty. And as the hall of the house should be the place of

welcome, so we are making this point of contact between the Institute and the outside world carry its message of hospitality.

Such hospitality included, as Dr. Godfrey points out, not merely individual guests of faculty and students, but meetings of such bodies as the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the Society for the Promotion of Liberal Knowledge, and the National Council of the Phi Beta Kappa Society.

If, largely as the result of the strain of the war years, a new deficit had been created by the end of Godfrey's administration, it should also be said that the latter years of his administration were honored with further recognition of Drexel's heightened standards, when student branches at Drexel were formed in the American Institute of Electrical Engineers, the American Society of Mechanical Engineers, and the American Society of Civil Engineers.

HOLLIS GODFREY AND THE INSTITUTE

In numerous studies like "The Institutional Budget" and "The Drexel Idea," cited above, Dr. Godfrey propounded theories on administration and education. Sometimes original, sometimes derivative, these theories help to explain his policies. In carrying through changes at the Institute, while yet preserving its chief functions, Dr. Godfrey held consistently to such views as these: that education should not only be good, but good for something; that education at Drexel in particular should be specific, practical, and adaptable to changing needs; that in the educational economy of Philadelphia the position of the Institute should be, so far as possible, unique. These principles, he held, should apply with equal force to all types of Institute instruction—day and evening—special, preparatory, and collegiate. The inference here is unmistakable. For Dr. Godfrey, the principal function of the Institute was specialized training along practical lines concurrent with technical and commercial developments. The charge that he converted the Institute into a college of conventional type is inadmissible. His utilitarian bias was pronounced. Indeed, the broad cultural aspects of education implicit in college training seem to have meant very much less to him than to his predecessor, James MacAlister.

But whatever his theories, it must be said for Dr. Godfrey that in the main his services to the Institute were essential and constructive, though his methods in performing them were often abrupt. It was natural that an earlier Drexel, with its tradition of departmental autonomy, should resent being carded and combed into uniformity by any method whatever. But though Dr. Godfrey's purposes and methods were uncongenial to many, the value of his achievements cannot be gainsaid. To him may be attributed a general regularizing of standards, the promotion of one division of the Institute out of secondary into collegiate standing; the elimination of much needless duplication of instruction; the clear differentiation between certificate, diploma, and degree; the establishment of systematized curricula, in the true sense of the word; and the distinction between departments—again in the true sense of the word—and schools.

The general plan whereby these and other ends were accomplished is attributable to Hollis Godfrey. It is impossible, however, to assign to the head of any institution absolute credit or discredit for all that occurs under his direction. Dr. Godfrey's conduct of the Institute is a case in point. Some portion of the credit for the positive achievements of his administration belongs to such men as Arthur J. Rowland, Henry V. Gummere, Ira W. Fisk, and John H. Bringham, brief as were the tenures of the last two. The Institute is deeply indebted to Dean Rowland and Professor Gummere for the early organization of engineering studies. Upon modern engineering Professor Fisk and Dean Bringham have had a profound influence: Fisk because he first put the Institute's coöperative plan to paper; Bringham, through his reconstruction of the faculty.

A detached appraisal of Dr. Godfrey's administrative policies in their relation to general time and trend, highlights the indisputable fact that Greater Philadelphia in its industrial, commercial, and educational developments had outgrown the loosely constituted Drexel of MacAlister. Godfrey realized the truth of this and took action to readjust the structure of the Institute to the requirements of the city it served, for service to Greater Philadelphia was the core of his thinking. A man of force and vision, his administration is, with the passage of time, being more justly appraised.

As of October 1, 1921, he resigned the presidency of Drexel Institute in order to devote himself to establishing the Council of Management Education in Boston. This organization grew out of a meeting held at Drexel Institute in March, 1920, and attended by representatives from a large number of eastern colleges and universities as well as executives and experts from some seventy-five corporations; its purpose was to work out a definite course of technical training for colleges to meet the specific needs of American industry. Hollis Godfrey's death occurred on January 17, 1936. Of his connection with Drexel it may be said that he found the Institute a school of departments and left it a college of schools.

CHAPTER FIVE

KENNETH G. MATHESON

BETWEEN the resignation of Dr. Godfrey and the appointment of another president, the direction of the Institute's educational program was vested in a special Administrative Board of three men: Dean of the Faculty Frank H. Linthicum, chairman; Director of Extension C. L. Eyanson, corresponding secretary; and Director of the Evening School Willis T. Spivey, recording secretary. These men had the responsibility of keeping the Institute on an even keel until a successor to Dr. Godfrey might be appointed and installed. Theirs was no easy task.

Enrolment in the Day School had fallen to a low of 462, though the Evening School attendance, except for the war years, never dropped below 1800. The decrease in enrolment during the tenure of Dr. Godfrey is ascribable in part to the general loss in enrolment at technical schools due to the war itself, and in part to the loss of contact with the Philadelphia and suburban public schools. Dr. Godfrey's plans for the Institute, opposed by many of his own faculty, bewildered those not closely in touch with Drexel. It is understandable that school authorities would take a somewhat cautious attitude until the sound value of the reorganization had been proved.

It should also be noted that while Dr. Godfrey's duties at the Institute were exacting, his public activities were also varied and arduous. Originator, in 1916, of President Wilson's Council on National Defense and a member of the Advisory Commission of the Council, he was of necessity often away from the Institute and out of touch with its problems.* Income, supported since the early years of MacAlister by progressive increases in tuition and fees, dropped seriously as Drexel enrolment declined.

THE ADMINISTRATIVE BOARD

The task which faced the Administrative Board was a delicate one, first, of preserving the 1919-1920 reorganization of the Insti-

* *American Industry in the War*. Ed. by Richard Heppeheuser. New York, 1941, p. 18.

tute under Dean John H. Bringham, and second, of making a beginning in the direction of increased enrolment by drawing closer the ties between Drexel and the schools of Greater Philadelphia. It is to the credit of the members of the Administrative Board that during their term in office they succeeded, with the support of the faculty, in maintaining the equilibrium of the Institute and in cushioning somewhat the alarming drop in enrolment.

A period of transition and of faction within a large organization is not easy to appraise. Though radical change may be recognized even in its own time as constructive, often the methods of change cause feeling which cools only with time. To keep the *status quo* until temperate judgment reasserts itself is a constructive service in itself. The recognition of this truth and its practical observance on the part of the Administrative Board deserve acknowledgment.

KENNETH GORDON MATHESON

1864-1931

Kenneth Gordon Matheson, born in Cheraw, South Carolina, of parents of Scottish descent, was educated at the South Carolina Military Academy, Leland Stanford University, where he received the degree of Master of Arts, the University of Chicago, and Columbia University. In 1885, he entered upon a long and distinguished career of teaching and administrative work. Between 1885 and 1888, Dr. Matheson was commandant of cadets at Georgia Military College, and for two years thereafter was commandant and assistant professor of English in the University of Tennessee. In 1890, he became both commandant and head of the Department of English at the Missouri Military Academy, and seven years later returned to Georgia as professor of English at the Georgia School of Technology, serving also as chairman of the faculty until his acceptance of the presidency of the school in 1906. In this post, he continued with distinction until April, 1922, when he assumed the presidency of Drexel, having been elected to this office in the fall of 1921. Washington and Lee University and the University of Georgia conferred upon Dr. Matheson the honorary degree of Doctor of Laws; the University of Pennsylvania, the degree of Doctor of Science.

Status of the Institute in 1922

It is perhaps well to offer a short and, it is hoped, just recapitulation of the Institute as Dr. Matheson found it. The first problem was that of enrolment. A closely allied problem was that of Institute income. A certain amount of confusion, too, and factionalism had carried over from President Godfrey's sweeping changes. Unsure of the future, many on the faculty were restive. Some of the alumni had become disaffected, and alumni of the Library School were clamoring for the reinstatement of the School. Certain of the departments were seriously understaffed, notably that of physics. Liaison between the Institute and the neighboring public schools was far from being satisfactory; and though some beginning had been made in coöperative work, no systematic attempt had been made to develop closely reciprocal services between the Institute and the business and industrial organizations of Greater Philadelphia.

In addition, the incorporation of the School of Engineering at collegiate level involved a duplication of instruction with Drexel's neighbor school of engineering, that of the University of Pennsylvania, which predated the Institute in the accrediting of technical instruction toward a degree. Here, too, the Institute labored at a disadvantage; for much of its equipment was in need of repair or replacement. Last, but by no means least, the general physical facilities of the Institute were no longer adequate for its highly diversified instruction. Writes the new president in an early report to the Board of Trustees: ". . . much of the equipment is very antiquated, and it is of the utmost importance that all equipment and facilities should be thoroughly modernized, as only in this way can efficient work be done."

Such was the Institute as Dr. Matheson found it. To compose factions within and to allay criticism without, to establish the Institute on a sound financial basis, to modernize equipment and extend the plant, to consolidate Godfrey's gains, and to simplify administration, to standardize entrance requirements at a truly collegiate level and progressively increase enrolment, to prove the efficacy and extend the scope of coöperative education, and to see that Drexel educational service was organized and publicized in a way to establish confidence—these were the most pressing prob-



Kenneth G. Matheson

lems which faced Kenneth Gordon Matheson, when in 1922 he came to the Institute from many years of successful administration at the Georgia School of Technology.

It is well to point out certain similarities between the problems which faced Dr. Matheson at the Georgia School of Technology when he became its president in 1906, and those at Drexel Institute in 1922. In 1906, technological education had been something of an innovation in the South. Established by Governor N. E. Harris, Georgia Tech was still a struggling school on the outskirts of Atlanta when Dr. Matheson was called to the faculty as professor of English. At that time, the school had yet to prove itself: enrolment was small, income inadequate, equipment and plant barely sufficient for the needs of even the few students enrolled. The task which confronted Dr. Matheson when he undertook the presidency of Georgia Tech was one of building from the foundation. He met every requirement of his position with conspicuous success. In his seventeen years of tenure he made of the school a magnificent memorial to his administrative ability.

At Drexel Institute the plant was for the time being adequate and fixed income from endowment was substantial. Yet in many respects the problem was the same as at Georgia Tech. Apart from considerations of budget, enrolment, equipment, and factional feeling, so general had been Godfrey's reorganization that the Institute of the early twenties, recently accredited to give degrees, was in many respects a new school viewed askance by the very public school system upon whose confidence the general well-being of Drexel so largely depended. In the light of these parallelisms it is not difficult to see why the Board of Trustees, looking about for a man to whose judgment the future of the Institute could with sureness be entrusted, fixed upon Kenneth Gordon Matheson.

Beyond the fact that Dr. Matheson had an authoritative knowledge of education in general and of coöperative education in particular, the decision of the Trustees was influenced by the success of the Greater Tech Campaign of 1920-1921. Dr. Matheson had won for the Georgia School of Technology extension of plant, enlarged enrolment, and substantial monetary gifts.

But Dr. Matheson brought to his new post more than mere knowledge, more than acquisitive talents. He possessed faith in

youth, zeal for education, and devotion to duty. In him were combined shrewd common sense, broad understanding, and graciousness of manner—vital and necessary qualities if the factionalism of President Godfrey's time were to be composed. Able, progressive, and wise, Dr. Matheson was, at the time, the man best equipped through professional experience and personal endowment to satisfy the difficult requirements of Drexel Institute.

Definition of Policy

Dr. Matheson's first care in coming to Philadelphia was to establish a friendly understanding with the University of Pennsylvania and Temple University, and to clarify the future policies and services of the Institute to the Philadelphia schools and to the town itself, both by personal calls and by public statements. Six months before he entered upon his official duties he visited Philadelphia. A note from the Philadelphia *Inquirer*, dated November 8, 1921, reads in part as follows:

"I have called upon Acting Provost Penniman," said Dr. Matheson yesterday, "and one of the things we discussed was the possibility of affiliated coöperation. I do not consider that Drexel is competing with any other educational institution in Philadelphia. Drexel is supplementary. My idea is to coöperate with all other institutions."

Dr. Matheson continued his visits to Philadelphia throughout the winter, and upon his formal assumption of office in April, reported before the Executive Committee of the Trustees that, after a number of conferences with Provost Penniman, he had provisionally agreed to place certain laboratory facilities of the Institute at the disposal of women students of the University; in return, Drexel students in the School of Home Economics were to be admitted to specified theoretical work at Pennsylvania, particularly to courses in educational psychology. This marks the first formal program of coöperation between the University and the Institute. It was of especial value at the time because no systematic provision then existed at Drexel for instruction in educational psychology.

Further evidence of Matheson's welcome to Philadelphia appears in a handwritten letter, dated May 31, 1922, from Dr. Russell H. Conwell, founder and first president of Temple University:

Dear Doctor:

I was thinking today of your coming to Philadelphia and wondering if I could be of any help to you, or if I need to welcome you with any formalities.

I can truthfully tell you that we who are especially interested in the general educational welfare of our people are sincerely glad that you consented to come. We will work with you and for you, in your purposes and plans for the betterment of our city.

The Temple University has no ambition of a personal character and is only working for the greatest good of the greatest number of our young people. So it is the same to us whether another institution or ours does the work if the thing be done.

So anywhere that you see the advantage of a helping hand, we will come for the asking.

I feel that a more efficient coördination of our educational institutions would be a saving of money, and an economy of brain power.

But this will work out with time and good will.

Again I say, *Welcome*.

Dr. Matheson replied in the same cordial spirit. A testament to the continued friendliness of the two institutions is to be found today in the close affiliation of Temple and Drexel in the federal program of engineering training for national defense.

In making clear the future course of the Institute, President Matheson did not limit himself to the universities. He devoted much of the autumn of 1922 to visiting local high schools. In December, with the approval of the Board of Trustees, the Institute offered scholarships to seven of these schools, a policy which has been continued in expanded form at Drexel.

Before formally assuming the duties of his office, President Matheson had studied methods for operating the Institute within its budget, had formulated plans for increasing income, and had considered favorably a petition to reestablish the Library School. He had, in addition, surveyed the personnel and the equipment of the departments of the Institute, and had checked, wherever possible, his findings with disinterested outside opinion. He had sought, too, the advice of both students and alumni in order to strengthen their allegiance to Drexel. In the seven months which intervened between his election and his assumption of office, Dr. Matheson came to know the Institute thoroughly.

Matheson Takes Office

Without awaiting for ceremonial induction into office, Dr. Matheson began a reorganization of the administrative and faculty structure of the Institute. Shortly after the advent of the new president, Dean Linthicum and C. L. Eyanson of the ad interim Administrative Board withdrew. Linthicum's position was in a sense revived when, in 1924, Professor R. C. Disque was made Academic Dean. Dr. Matheson promptly recommended a separation of function in the historic office of registrar. As a result, W. R. Wagenseller was appointed Comptroller of the Institute and Dean of the retitled School of Business Administration.* Miss Frances E. MacIntyre remained as registrar.

Faculty administration was centralized in a small Faculty Council comprising the president, deans and directors, department heads, and eventually chairmen of certain important committees. The Faculty Council met weekly. Then as now, the general faculty, having few functions, met infrequently. At this time, a faculty committee on publicity was established to keep before the public and prospective students the services of the Institute to the community. With a keen sense of the value of a loyal alumni, Dr. Matheson spared no pains to arouse the general alumni to activity. To this end he early allotted some of the time of his secretary, Miss Harriet E. Worrell. In 1922, Mr. Horace P. Liversidge was elected to the Board of Trustees, first Drexel alumnus to enjoy that distinction.

From the beginning, Dr. Matheson encouraged the students to organize for their social, moral, and intellectual improvement, sharing so far as was possible in the activities of students. Specifically, he created the office of Dean of Men and expanded that of Dean of Women, and thus delegated student plans and problems to responsible faculty officers. To these deanships, he appointed J. Peterson Ryder and Miss Ruth A. L. Dorsey.

The needs of the Institute as outlined in President Matheson's report for 1922-1923 were as follows: an additional endowment of one million dollars; a women's dormitory, or purchase of land and buildings then used for that purpose; an engineering building, with equipment, on East Lot, at an estimated cost of \$200,000;

* Formerly entitled Secretarial Studies.

an athletic field; and modern equipment for all departments, at an estimated cost of \$50,000. The following sections will trace the means by which these urgent and immediate objectives were met.

Preoccupied as he was with the needs of the Institute, Dr. Matheson found time and occasion to endear himself to the student body through his sponsorship of athletics and student government. He manifested his interest in competitive sports upon his first formal appearance as president of Drexel on June 7, 1922, to award prizes on Institute Day. Writes the *Evening Bulletin* of this date:

Honorable mention and medals for athletic proficiency were awarded. The exercises, which were preparatory to the commencement on June 21, included presentation of the "D" to athletes, cups to men's and women's rifle teams, gold basketballs to the women's basketball team, and individual awards. The Women's Student Government made a report of its work and plans. This is a newly organized body. The Men's Student Council also has prepared a report.

It was thus, by deft administrative touches, good will sincerely felt and sincerely returned, a policy clearly stated to the public, tactful insistence upon the things necessary to be done, kindly but firm pressure upon students, alumni, faculty, and trustees alike, that Kenneth G. Matheson readied the Institute to embark united upon a systematic program of rehabilitation. The keystone of the structure he planned lay in coöperative courses, one educational service which duplicated no other in the Philadelphia area.

Matheson and the Coöperative Plan

The coöperative plan of education is treated at length in later chapters devoted to the School of Engineering and to the School of Business Administration. Initiated at Drexel by President Godfrey in 1918, revised under Dean Bringham in 1919, the plan was in operation when President Matheson arrived. It was Matheson, however, who gave it system, found it friends, and made it work.

Under Dr. Matheson effective coördination between the Institute, its coöperative students, and their industrial employers was achieved. Credit for this belongs to the present Director of Coöperative Education, C. A. Kapp, who came to Drexel with Dr. Matheson from the Georgia School of Technology. Director Kapp,

strongly supported by Matheson, reorganized the placement services. He insisted upon the students' responsibility to the Institute, to themselves, and to their employers. Industrial periods meant work for wages, not collegiate interludes. Failure in industry meant failure in college. This principle is basic to Drexel's greatly expanded coöperative program today, because it insures to prospective employers an earnest and responsible student personnel.

One of the most far-reaching contributions ever made to coöperative education at the Institute was Dr. Matheson's highly personal sponsorship of the five-year curricula in engineering. As a result, Drexel's engineering curricula are today approved by the highest accrediting agencies in the engineering profession. The original curricula, however good, would not now meet the approved standards for professional training in engineering. Within the decade of his administration, day enrolment increased from 641 to 1963. By 1930, more than eight hundred firms had participated in Drexel's plan of technical and business training.

In respect to coöperative education the policies of Hollis Godfrey and Kenneth Matheson supplement each other. To Godfrey—the major features of whose reorganization Matheson, in a written statement, approved—is owing the initiation in 1915 of controlled summer work, forerunner of the coöperative plan at Drexel, and the coöperative plan itself. But to Dr. Matheson and Director Kapp must go the credit of developing the plan to a point where it became an integral part of Philadelphia's industrial and business life.

THE ENDOWMENT DRIVE

1924-1928

Reviewing his first three years at Drexel, in a report dated 1924-1925, President Matheson pointed out that annual deficits ranging from \$3,000 to \$94,000 characterized most of the years from 1914 to 1922. He said further than since 1922 the Institute had operated within its income. This had been made possible by generous contributions from Sarah Drexel Van Rensselaer, Colonel Anthony J. Drexel, John R. Drexel, and Mr. George W. Childs Drexel. Thus, Dr. Matheson had been able to begin his administration with the Institute clear of debt. The necessity which actu-

ated these gifts lent weight to the new president's statement of the need for added endowment.

Dr. Matheson anticipated little extension of Drexel's services into new fields: the Institute, committed to the coöperative plan, would seek to regain the unique place it had so long held in Philadelphia education. Dr. Matheson foresaw the goal toward which Drexel moves today—research and graduate study.

Godfrey had done a great deal toward reorganizing day instruction at the college level; Matheson set himself the task of improving that instruction, in order to win for it national recognition. Just how much yet remained to be done in making uniform the degree curricula of the Day College appears from an item in the *Public Ledger* of May 11, 1924:

By day a thousand students are at work in Drexel Institute. There they find opportunity to take a complete four-year course leading to a bachelor's degree in civil, electrical, mechanical, or chemical engineering, or in commerce, secretarial studies, or home economics.

Many content themselves with two-year or three-year junior college courses, leading to a diploma instead of a degree. Many enroll merely for a one-year course rewarded by a diploma in library science or in secretarial studies. And there are many students whose object is briefer training in special aspects of their intended life occupations.

In addition to the necessity for renewed equipment, by mid-winter of 1922 it had become evident that an additional building on East Lot would also be essential. Before embarking upon a building project, the administration decided to consult members of the Drexel family. The outcome was the decision that a general drive for endowment should be launched. Upon motion of Mr. George W. Childs Drexel at a meeting of the Board of Trustees on April 19, 1923, it was resolved to make a campaign in the spring of 1924 to raise an additional million dollars of endowment to increase salaries, and for other operating expenses of the Institute. It was further resolved that the president be authorized to make application to the General Education Board of the Rockefeller Foundation for assistance in carrying out the purposes of the resolution.

Dr. Matheson made such application to the General Education Board, and on July 19, 1923, announced that the Board was prepared to contribute the sum of \$100,000, contingent upon a public

subscription of \$900,000. During the summer and fall, representatives of campaign organizations were interviewed and Tambllyn and Brown of New York was chosen to conduct the campaign. By May, 1924, interest among alumni had been widely cultivated, and on May 7, according to the *Public Ledger*, representatives of classes from 1895 to 1923 gathered in East Hall for an address by President Matheson:

Dr. Matheson pointed out that the endowment was not intended to expand the Institute, but simply to increase its effectiveness. Group chairmen to direct the team captains and workers were chosen last night by Horace P. Liversidge, '97, Chairman of the Alumni Association. They include O. C. Schmidt, engineering; Mary Hanna, domestic science; Mrs. Mary Eastwood, domestic arts; Miss Caroline Perkins, library science; Erskine Bains, business administration; Clarence Brazer, architecture and art; and Kern Dodge, in charge of districts arranged geographically. There are seventy-five team captains and more than 300 workers in the alumni body. The drive will open on May 9, and continue until May 20. It will be preceded by a dinner Friday night at the Bellevue Stratford, at which more than a thousand are expected to be present.

Such was the beginning of Drexel's endowment drive. On May 9, a thousand alumni and friends met in the ballroom of the Bellevue Stratford; in twenty-one other cities throughout the nation dinners were held at the same time by alumni groups. The story of the campaign can best be told, perhaps, in a montage of quick news flashes:

PUBLIC LEDGER, May 8, 1924. Headquarters for the campaign have been opened on the fifth floor of the Drexel Building. The general executive committee includes Alexander Van Rensselaer, George W. Childs Drexel, Arthur L. Church, Edgar C. Felton, Horace P. Liversidge, Dr. Matheson, A. J. Drexel Paul, J. Rodman Paul, and Mrs. George W. Childs Drexel.

. . . Twenty-eight teams of women are at work, led by Mrs. George W. Childs Drexel. George W. Childs Drexel, son of the founder, is paying the expenses of the campaign.

. . . The alumni have organized for the campaign in accordance with the department which they attended—engineering, business administration, domestic arts, domestic science, library science, secretarial science, or art and architecture.

PUBLIC LEDGER, May 10. The Committee on Special Gifts announced

yesterday includes Edgar C. Felton, chairman; C. E. Brinley, Samuel M. Curwen, Livingston L. Biddle, Nathan Hayward, Fayette R. Plumb, Robert K. Cassatt, C. Hartman Kuhn, A. J. Drexel Paul, Allen Evans, William A. Law, Dr. Robert G. LeConte, Conrad N. Lauer, J. Heron Crosman, Jr., Livingston E. Jones, William C. Alexander, Henry G. Brengle, Leonard T. Beale, Adolph Rosengarten, Paul Denckla Mills, A. J. Drexel Biddle, Thomas Ridgway, Edward Law, Earl B. Putnam, Gouverneur Cadwalader, C. H. Krumbhaar, William B. Churchman, Winthrop Sargent, Marmaduke Tilden, Jr., Paul Spencer, John L. Evans, G. C. Munoz, William D. Disston, Alexander Biddle, Arthur E. Newbold, Edwin N. Benson, C. F. C. Stout, Kenneth G. Matheson, president of the Institute; Arthur W. Sewall, Albert P. Gerbard, Thomas B. Smith, and Roger Montgomery.

The committee, which will seek \$300,000 in gifts from the industries, includes Arthur L. Church, chairman; J. B. King, David Halstead, Allen Evans, C. W. Woodward, W. A. Crozer, Harold F. Strong, S. M. Curwen, George W. Childs Drexel, Edgar C. Felton, F. R. Plumb, Bruce Ford, Milton Gehris, W. M. Anderson, Jacob S. Disston, Jr., A. Atwater Kent, Alexander Van Rensselaer, Dr. Matheson, C. W. Asbury, and Kern Dodge.

. . . Graduates and friends of Drexel Institute gave banquets Thursday evening while the dinner of a thousand supporters was in progress at the Bellevue Stratford. These other banquets were in Cleveland, Boston, Baltimore, Washington, Wilmington, Atlantic City, Newark, Trenton, Harrisburg, Lancaster, Pittsburgh, Reading, Allentown, Oil City, Pottstown, Coatesville, Hazleton, Carlisle, Orange and Bridgeton, N. J., and Pasadena, Calif.

For the campaigns in these places and in all other regions more than twenty miles from Philadelphia, a committee on Geographical Areas headed by Kern Dodge is in charge.

. . . The United States in general will hear an appeal for gifts to the endowment fund. On Tuesday at 9 p.m. Dr. Matheson will speak for ten minutes on the work, purposes, and needs of Drexel Institute. His address will be broadcast from radio station WIP at Gimbels'.

PUBLIC LEDGER, May 11. From many pulpits today clergymen will appeal to their congregations to help Drexel Institute continue unimpaired its work of training men and women for higher skill in engineering, industrial chemistry, business administration, library work, and . . . modern scientific home economics.

. . . Among the members of the Committee of Counsel and Indorsement which is aiding actively in the campaign, are the presidents of William Cramp & Sons Company, the United Gas Improvement

Company, the Philadelphia Electric Company, the Baldwin Locomotive Works, and other large enterprises, and also the president of the Manufacturers Club.

. . . The membership of this Committee on Counsel and Indorsement has been announced as follows:

Men's Division—Walter F. Ballinger, Samuel T. Bodine, Morris L. Clothier, Charles J. Cohen, J. Howell Cummings, Cyrus H. K. Curtis, Agnew T. Dice, Alva C. Dinkey, Frank Disston, Franklin D'Olier, Franklin Spencer Edmonds, William M. Elkins, Samuel S. Fels, John Fisler, Samuel S. Fleisher, Percival E. Foerderer, Thomas S. Gates, Ellis A. Gimbel, Francis I. Gowen, Dr. Charles D. Hart, A. A. Jackson, Alba B. Johnson, A. Atwater Kent, L. H. Kinnard, William A. Law, Samuel D. Lit, Herbert Lloyd, George Horace Lorimer, David S. Ludlam, Judge J. Willis Martin, Joseph B. McCall, George H. McFadden, Jr., J. Harry Mull, John S. Newbold, George W. Norris, Senator George Wharton Pepper, J. Howard Pew, Staunton B. Peck, the Rev. Dr. ZeB. T. Phillips, Fayette R. Plumb, Samuel Rea, William B. Read, A. G. Rosengarten, Walter M. Schwartz, Snellenburg & Co., Joseph M. Steele, Edwin S. Stuart, Samuel M. Vauclain, Charles P. Vaughn, William E. Wark, Samuel D. Warriner, and Charles J. Webb.

Women's Division—Mrs. Archibald Barklie, Mrs. Edward Biddle, Mrs. Rudolph Blankenburg, Mrs. Edward Browning, Mrs. J. Gardner Cassatt, Mrs. Cyrus H. K. Curtis, Mrs. George Dallas Dixon, Mrs. George B. Evans, Miss Helen Fleisher, Mrs. Charles Henry, Mrs. Arthur Lea, Mrs. Stacy B. Lloyd, Mrs. George Horace Lorimer, Mrs. J. Willis Martin, Mrs. Kenneth G. Matheson, Mrs. H. S. Prentiss Nichols, Dr. Marion E. Park, Miss Agnes Repplier, Mrs. James Starr, Mrs. Alexander Van Rensselaer, Mrs. Barclay Warburton, Miss Frances Wister, and Mrs. Charlton Yarnall.

PUBLIC LEDGER, May 12. . . . Each of the 2400 evening school students has been asked to contribute \$15. In class after class where subscription papers have been circulated, the students, to a man, have signed up.

PUBLIC LEDGER, May 13. The Special Gifts Committee reported subscriptions already received of \$115,970. . . . Among the first special donors were: Mr. and Mrs. Alexander Van Rensselaer, \$25,000; A. J. Drexel Paul, \$20,000; John R. Drexel, \$20,000; Drexel & Co., \$10,000; Mr. and Mrs. Livingston L. Biddle, \$5,000; and Mrs. Robert Kelso Cassatt, \$5,000.

. . . Librarians trained at Drexel Institute are hard at work. In their behalf, Miss Caroline Perkins, of the Chestnut Hill Branch Free Library, reported \$2,000 raised and another \$1,000 pledged.

For the alumni trained in engineering at Drexel Institute, Oscar C. Schmidt announced that thus far seven classes had reported gifts of \$2802. The pioneer class, graduated in 1895, has given \$1,000 of that sum.

In behalf of those trained in architecture and arts, Clarence W. Brazier reported gifts of \$1,080.

PUBLIC LEDGER, May 14. The largest gift of which knowledge became public yesterday was \$50,000 from Mr. and Mrs. George W. Childs Drexel.

Contributions from the home economics alumnae totaling \$4,210 were announced—a figure not yet surpassed by any group of graduates of Drexel Institute.

PUBLIC LEDGER, May 15. The two largest new subscriptions . . . were \$5,000 apiece from Miss Lillie B. Randell and Mrs. Letitia W. Garrison. . . .

Another gift reported was \$2,500 from Joseph E. Widener; another \$1,500 from E. C. Felton. Nineteen subscriptions of \$1,000 each were reported . . . together with a long list of gifts of from \$500 to \$1.00.

. . . One new team of campaigners for Drexel Institute endowment has entered the field—ten from among women active in Republican affairs, with Mrs. George Horace Lorimer and Mrs. George H. Strawbridge at the head of the group.

PUBLIC LEDGER, May 16. Yesterday's largest individual gift was \$10,000 from the Philadelphia Electric Company. Joseph B. McCall, president of the company, says this contribution is "an expression by the Board of Directors of appreciation for services rendered by Drexel Institute in the past and a good investment for the future."

PUBLIC LEDGER, May 18. It is expected that large amounts will be added by various industries in the city as soon as the corporation service agreement becomes operative. Under this plan, any concern may receive the fullest co-operation that such an institution as Drexel can offer. In return for this service the corporation pledges to pay to the endowment fund any sum of money it may elect. The Institute agrees to extend free use of its laboratories to the concern, to permit free consultation with the school faculty on difficult engineering and technical problems, to keep and furnish accurate records of alumni and under-graduates especially fitted for any particular line of mechanical work and of their qualifications and experience, and to furnish men to the company when they are needed.

This plan, perfected since the opening of the drive, has already been adopted by the Atwater Kent Company, which subscribed \$10,000;

Electric Storage Battery Company, \$5,000, and Proctor and Schwartz, \$1,200.

PUBLIC LEDGER, May 20. The alumnae team captains reported new pledges obtained from Drexel graduates by the women graduates' teams amounting to \$5,796.

Other new contributions reported to headquarters during the day included \$1,000 each from Mrs. George Horace Lorimer, Clement D. Newbold, and Arthur W. Sewall. . . .

PUBLIC LEDGER, May 22. Seventeen men who are presidents of great business or industrial concerns or heads of important commercial organizations have joined with the president and trustees of Drexel Institute in sending out invitations for a luncheon at the Manufacturers' Club at 12:15 p.m. Monday in behalf of the campaign for an additional \$1,000,000 of endowment for Drexel Institute. Samuel M. Vauclain, president of the Baldwin Locomotive Works, will speak on "The Drexel Institute in Philadelphia Business and Industry."

. . . All day yesterday and until late last evening the freshman class girls of the Home Economics Course at Drexel Institute sold cakes and cookies of their own baking as their "bit" to help swell the fund in the institute's campaign for an additional million dollars.

EVENING LEDGER, May 22. . . . An affecting incident was the gift of a dollar bill from an old employee of the school—Robert Mooney, 65, and for thirty years employed as janitor at Drexel Institute, brought his contribution to the school, saying he wanted to do his share.

PUBLIC LEDGER, May 23. News that the first half million has been subscribed and that there is only half a million more to be raised gladdened the hearts of the campaign workers for Drexel Institute when they met at luncheon yesterday at the Bellevue Stratford.

Faculty and students have contributed \$33,000 toward the additional \$1,000,000 endowment for Drexel Institute. . . .

Great applause went to the women campaigners yesterday. "We started out to raise \$100,000, as the women's quota," said Mrs. George W. Childs Drexel, chairman of the Women's Division. "Already the women's teams have raised \$115,791."

PUBLIC LEDGER, May 27. Samuel M. Vauclain, president of the Baldwin Locomotive Works, yesterday told a luncheon gathering of industrial leaders at the Manufacturers' Club that "Drexel Institute is a useful institution we can't do without, and it's time for the manufacturers to put up for it." There are 10,000 manufacturers in Philadelphia who ought to give at least \$1,000 apiece toward the endowment fund of \$1,000,000 now being raised, declared Mr. Vauclain.

When the Baldwin Locomotive Works sent in its own subscription to campaign headquarters yesterday, it was for \$10,000.

PUBLIC LEDGER, June 1. "Our most substantial support," says Dr. Matheson, "has come from persons who have visited the school and seen the students and the type of work they are carrying on."

PUBLIC LEDGER, June 4. Kern Dodge, chairman of the Geographical Division reported new subscriptions . . . from alumni living at a distance from Philadelphia, making a total to date from non-residents of \$11,360.

PUBLIC LEDGER, June 6. As a result of the spirit of loyalty and co-operation which the drive for an additional \$1,000,000 endowment for Drexel Institute has intensified, the alumni of the evening school dined last night at Kugler's and formed an Alumni Association of the Drexel Institute Evening School. . . .

By the autumn of 1928, through the generous response of all interested in the Institute, the full endowment had been collected or pledged, and the following years were busy ones in the matter of Institute reorganization, reëquipment and quiet promotion. On September 18, 1930, the president reported before the Board of Trustees that the full million had been obtained. Since the gift of \$100,000 had been made by the General Education Board contingent upon the public subscription of \$900,000, it is only owing to the Institute's Trustees to acknowledge their generosity in providing by gift what at that time was necessary to satisfy fully the contingency.

The progress of Drexel's endowment campaign of 1924-1928 has been uncritically quoted because only through contemporary account does it fully appear to what extent all that is representative of Philadelphia rallied to the Institute in her need, and how profound and unifying an effect it exerted upon administration, faculty, and student body, and upon alumni throughout the nation. Its promotional value was beyond estimate; and the Institute recalls and acknowledges with deep gratitude the support of the Philadelphia newspapers, particularly that of the *Philadelphia Public Ledger* and the *Evening Ledger*, the first of which had for many years a common bond of interest with the Institute, since its sometime co-owners, George W. Childs and Anthony J. Drexel, were in a very real sense co-founders of the Institute itself. Many representative Philadelphians who gave their time and services

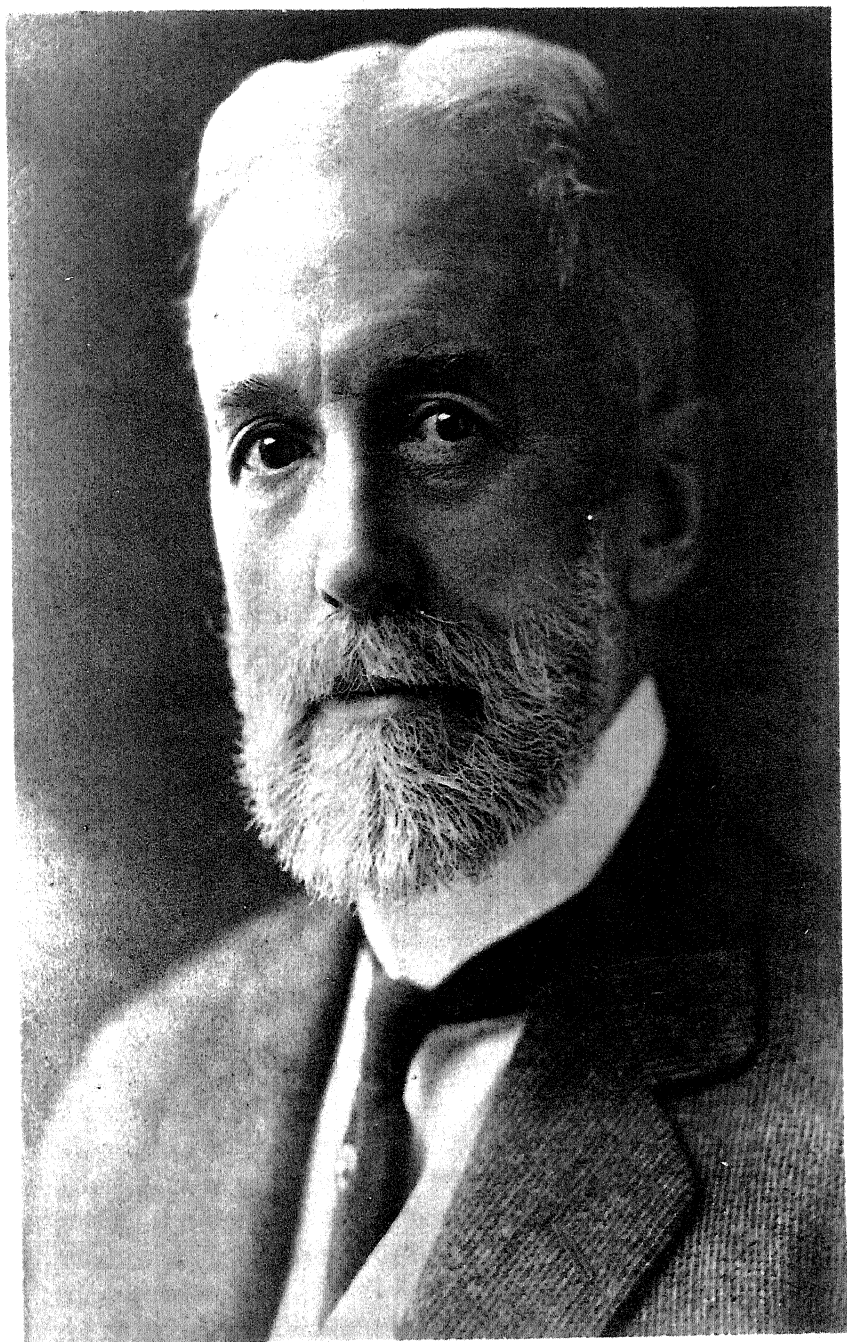
to the drive have since continued firm friends and supporters of the Institute in supplying its needs and furthering its policies.

PHYSICAL EXPANSION OF THE INSTITUTE

1924-1931

From the first, President Matheson had set his heart upon making day instruction at the Institute uniformly for degree. By the year 1925-26, with over half the projected endowment won, and the most of it pledged, he was in a position to realize more fully his plan. All diploma and junior college courses, with the exception of the two-year secretarial course, were gradually merged into curricula for degree, entrance standards were raised, and equipment in all departments was renewed. A further important feature was the announcement in 1926 that a department of education and psychology—a subject formerly taught by an exchange arrangement of visiting lecturers—was to be established at the Institute. In the presidential report of this year, Dr. Matheson announced that enrolment was rapidly approaching the limit of accommodation within the Institute plant. He had pointed out before, and now pointed out again, that the aim of the endowment drive had not been for physical expansion, but for means to bring the present services of the Institute to peak efficiency.

For specific needs, specific gifts had been generously offered. Alumni work, ably administered by Miss Harriet E. Worrell, had resulted in active alumni clubs, among them the Drexel Alumnae Club of Philadelphia which had raised \$1,000 toward the Maude G. Hopkins scholarship. In 1924-1925, the Carnegie Corporation had given \$10,000 to further the work of the Library School. Perhaps the most notable feature of the year had been the gift by Miss Lillie Bell Randell of \$200,000, a sum which was used to liquidate the long indebtedness of the Institute to the Drexel Estate for East Hall, erected in 1902. Writes Dr. Matheson, "As a token of esteem the Board has memorialized East Hall as Randell Hall, and Drexel Institute will always hold her and Letitia W. Garrison, her sister, in grateful remembrance." With an added endowment of a million dollars by public subscription and its standing debt liquidated by the generosity of friends; with operating expenses regularly within the budget, and with an alumni and staff solidly



Cyrus H. K. Curtis

behind the administration, Drexel Institute stood ready to embark upon the long-needed program of building expansion.

Curtis Hall: 1929

Dr. Matheson, in his report for the year 1925-26, had stated as among the most immediate needs of the Institute an engineering building on East Lot; a women's dormitory to replace the eight rented buildings, or "student houses"; an athletic field, since the field leased from Strawbridge and Clothier had been recently sold; and faculty annuities or insurance, in which some beginning had been made by President Godfrey. Within five years, this program had been realized, largely through the generosity of Mr. and Mrs. Cyrus H. K. Curtis, Lillie Bell Randell, Mr. and Mrs. Alexander Van Rensselaer, Mr. George W. Childs Drexel, Mr. A. J. Drexel Paul, and other members of the Founder's family.

The building program was initially discussed at a meeting of the Board of Trustees in November, 1927, for in a memorandum by Dr. Matheson dated January 2, 1928, the following entry appears:

Following the meeting of the Board of Trustees in November, Mr. Cyrus H. K. Curtis called me aside and stated that he had become interested in donating an engineering building to Drexel Institute to be located on East Lot and also that he was interested in securing a new and permanent site for the Institute, preferably the Kirkbride property if it could be secured.

Dr. Matheson's note is interesting because in it appears the first expression of interest in the grounds of the Pennsylvania Hospital, locally known as Kirkbride's. Apparently the attention of the Institute had first been directed to this property in 1926, when President Matheson secured through the generosity of the Trustees of the Pennsylvania Hospital the use of ten acres of ground at Forty-sixth Street and Haverford Avenue for an athletic field, a site still used today. Then as today, however, the administration realized the difficulty and expense of removal from the present plant as far beyond the Institute's means.

Of interest as expressive of Dr. Matheson's views is a further note of a conversation with Mrs. Curtis in December of the same

year, after a decision had been reached to build Curtis Hall upon East Lot. He reports Mrs. Curtis as having said:

"I wonder if we are acting wisely in erecting a new building on the present Drexel property, as most probably some time in the future it will be found advisable to sell the present property and move the Institute to a new site." I told her that in the first place we would probably remain on the present site for some years and that the efficiency of the work of the Institute would be greatly increased by the proposed new building. Further, that with the probable development of the Institute, it would be likely that use would be made of the present building even though the remainder of the present property of the Institute would be disposed of. I called attention to the location of numerous buildings of the College of the City of New York and other institutions in various parts of the cities in which they are located and indicated that the new building, properly enlarged, might be utilized in extension work or evening school work.

Mr. Curtis called upon President Matheson on December 14, and together they inspected the basement of the Institute with special reference to laboratories, machinery and other equipment. On their return to Dr. Matheson's office, Curtis said, "I have decided to make a Christmas present to Drexel Institute of this building and I authorize you to have the plans prepared and estimates made and to go ahead with the construction when this preliminary work has been done."

Accordingly, Dr. Matheson appointed a special building committee under the chairmanship of Mr. Charles E. Brinley, and on advice of the committee, Mr. Edward P. Simon, an alumnus of the Institute, was chosen architect. For the new building and its equipment, and for the rehabilitation of other equipment, Mr. Curtis gave the Institute \$600,000. Curtis Hall, virtually completed by April, 1929, was formally dedicated in the presence of its donor at the May festival, May 2, and opened in September of that year.

The Sarah Drexel Van Rensselaer Dormitory for Women: 1931

In Dr. Matheson's annual report of 1927-28 appear several interesting notes. One acknowledges the completion of the endowment campaign by contributions from trustees and the children of the Founder. Gift is acknowledged of a new organ for the audi-

torium presented by Cyrus H. K. Curtis, and dedicated on April 28, 1928, at which time Mr. Curtis offered the initial and dedicatory selection in person. In his notes on equipment, Matheson refers to the women's dormitories as having been leased for an additional three years. In closing the report, he recommends a new and adequate women's dormitory, and ends with the comment, "If the Board will authorize the naming of the building by the donor, it can be secured, thereby relieving the Institute of the uneconomical and unsatisfactory operation of ten buildings and . . . combining this important work in one plant."

Apparently the subject of adequate housing for women had been informally discussed with Cyrus H. K. Curtis, but no immediate action taken; apparently, too, Miss Lillie Bell Randell had been apprised of the proposal, for in a letter to Drexel and Company dated March 4, 1929, she writes:

I have today written to Dr. Matheson, President of Drexel Institute, Philadelphia, telling him that I wish to contribute \$25,000 towards the projected addition of a Women's Dormitory to the Drexel Institute in memory of the late Mrs. Alexander Van Rensselaer and that I am instructing you to kindly pay the amount if and when it is required.

Dr. Matheson has only notified me of the project, so if it has materialized, will you kindly remember and pay the amount?

In furtherance of the dormitory project, Dr. Matheson at a meeting of October 17, 1929, informed the Board of Trustees that a site had become available at Thirty-fourth Street and Powelton Avenue. In December, a new committee on a women's dormitory was appointed, with Mr. E. P. Simon, architect for Curtis Hall, as member. Copy for a pamphlet in reference to a women's dormitory had been written, and Mr. Simon was asked to prepare a drawing of the proposed building. In September, the pamphlet, featuring the letter of Miss Randell of March 4, was ready for distribution. On December 30, the president reported to the Board that he had had several interviews with Mr. Curtis, who had stated that he would be glad to contribute half the amount of the cost, including land and suitable buildings. Plans were immediately placed in course of preparation by the committee in charge for submission to Mr. Curtis. In a letter of January 3, 1930, Curtis confirmed to Mr. Van Rensselaer, president of the Board of Trustees, the substance of his conversation with Dr. Matheson:

In reply to yours of December 31st, I appreciate that the lack of housing facilities for the girls is the one weak spot in Drexel Institute today, and therefore as I told Dr. Matheson, I will contribute one-half of the necessary expense for such a building which is estimated at \$600,000, and my check enclosed herewith for \$300,000 answers your question as to its being dependent upon securing by the Board of Trustees the other pledges at this time.

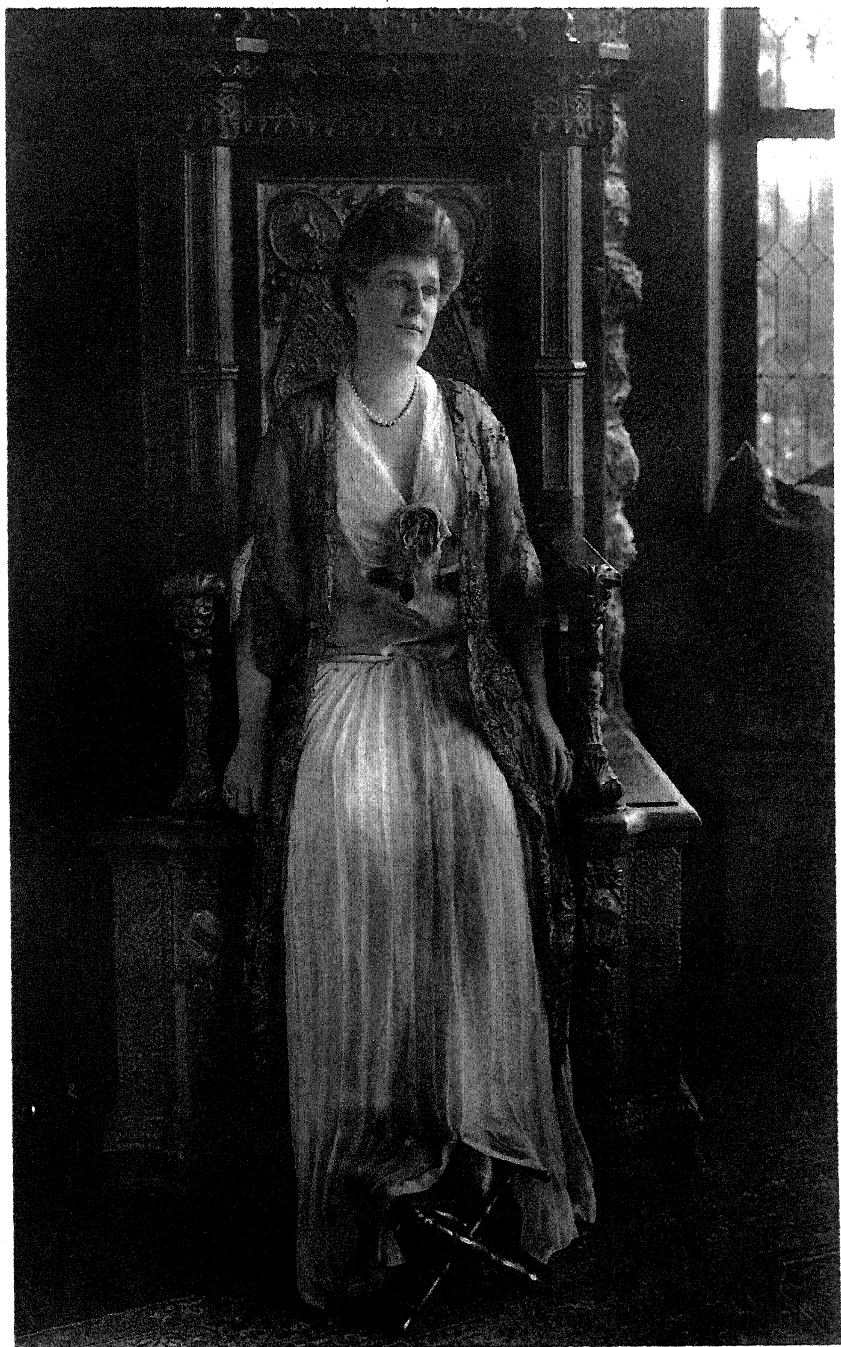
The fact that you will immediately secure the site and start building with this contribution of mine of course means that you will have to secure other contributions for the balance required. If I am willing to contribute half of the expense, I feel that others should come forward and complete the project. I am quite certain that you will have this done if you use the funds I contribute to begin the work immediately, which is what I understand from Dr. Matheson will be done.

A committee was appointed for immediate action, comprising Edgar C. Felton, chairman, Charles E. Brinley, Walter M. Schwartz, Edward P. Simon, W. R. Wagenseller and Dr. Matheson, whose duties were to purchase the site and to supervise the planning and construction of the new dormitory. On January 16, 1930, the agreement of sale was approved for the purchase of premises on the southeast corner of Thirty-fourth Street and Powelton Avenue. Within the following month, upon recommendation of Dr. Matheson, the name "The Sarah Drexel Van Rensselaer Dormitory for Women" was approved. Among other generous contributors to dormitory funds who followed the lead of Miss Randell and Mr. Curtis were Alexander Van Rensselaer, Effingham B. Morris, and Edgar C. Felton. On May 12, 1931, the cornerstone of the new building was laid, and by September the building had been completed and was ready for occupancy by the week of registration. The final inscription placed upon the tablet of the dormitory in 1935 reads as follows:

The construction of this dormitory was made possible by the generosity of Cyrus H. K. Curtis and others and by the proceeds of the Randell Fund given by the late Lillie Bell Randell "in affectionate and loving memory of the long and lasting intimacy existing between the testatrix, her sister Letitia, and Mrs. Alexander Van Rensselaer."

The Drexel Lodge: 1931

From the early years of the Institute, it was realized that the lack of a campus for Drexel's teeming and busy enrolment was a



Sarah Drexel Van Rensselaer

serious limitation. Late in the MacAlister administration, Mr. and Mrs. Van Rensselaer made Runnymede, the Drexel estate in Delaware County, available to the Institute community. Here for about a decade, Drexel students were provided with facilities for outdoor sports and recreation. Eventually, when Runnymede was sold for a building development, the athletic needs of the Institute were met by lease first of the old Strawbridge and Clothier field, and then of the present field at 46th Street and Haverford Avenue, which, however, provided no facilities for social recreation.

In the autumn of 1929, Mr. A. J. Drexel Paul, grandson of the Founder, purchased a site on West Chester Pike for a recreational center. During the winter, under the general supervision of Director W. T. Spivey, Drexel Lodge was erected and playing fields were laid out. The Lodge and grounds—now, through the continued benefactions of Mr. Paul, grown to twenty-two acres—were formally dedicated on May 2, 1931.

Thus, the summer of 1931 saw many of Dr. Matheson's hopes for Drexel Institute realized. Within a decade, he had brought to the Institute in material accessions alone one million dollars of general endowment and over two additional millions in equipment and buildings.

WITHIN THE INSTITUTE

President Matheson's more widely publicized services never for a moment obscured in his mind his primary objective—that of making Drexel Institute a technical college of the first rank. His reports to the Board of Trustees stressed the importance of bringing to the Institute the best teachers procurable and of retaining them once they had come. To this end, he urged upon the Board the necessity of a really adequate retirement plan for the faculty and administrative personnel. After careful consideration of Dr. Matheson's proposal, the Trustees approved an annuity plan of generous provision effective as of August 12, 1929.

Untiring in his encouragement and sponsorship of student welfare, Dr. Matheson regretfully refused to recommend to the Board of Trustees favorable consideration of the initial proposal for a student building. On September 16, 1929, however, he reported that a substantial check had been received from the Fairmount

Park Association for the purpose of establishing at the Institute a George W. Childs—Anthony J. Drexel Memorial. The gift, augmented by a donation from Dean Ryder, made possible the conversion of part of Randell Hall into the Men's Lounge. Completed in 1930, the Lounge was dedicated with the unveiling of a memorial tablet by Mr. George W. Childs Drexel and Mr. J. Rodman Paul, Mr. Alexander Van Rensselaer accepting the gift for the Institute. To the same period belongs the provision of the Women's Lounge on the third floor of Randell Hall. In ways such as these Dr. Matheson continued President Godfrey's policy of making the Institute building, in addition to its workaday use, a pleasant place of student resort.

President Matheson encouraged research at the Institute, and was personally interested in the efforts of its teachers to undertake advanced study, attend the meetings of professional societies, and write for publication. Such activities, he was wont to say, reflected credit, not only upon the teachers but upon the Institute as well; and he was deeply appreciative of them, as his annual reports make clear. These reports show also a progressive record of approval of the Institute by the national societies. By the final year of Dr. Matheson's administration, Drexel Institute stood firmly established as it stands today—as a technical college of first rank. In May, 1931, Mr. A. J. Drexel Paul reported to the Board of Trustees that the Charter had been amended to permit the granting of "such honorary degrees as are authorized from time to time by the State Council of Education." Twice during the Matheson decade the Charter had to be amended to meet the requirements of the expanding Drexel curricula.

THE CLOSING YEAR

The year 1931 was a sad one for the Institute. In January, J. Peterson Ryder, first director of physical training, sometime librarian, and first dean of men, died. Mr. Ryder's interest in the Institute did not cease with his death. By the terms of his will generous provision was made for scholarships and for the construction and furnishing of faculty clubrooms. An additional gift was the clock in the Court, known as the J. Peterson Ryder Clock and inscribed with the legend, "Be on Time," his favorite injunction.

tion to students. A memorial resolution appears in the minutes of the Board of Trustees, dated January 15, 1931:

RESOLVED, that through the death of Professor Ryder on January 10, 1931, the Drexel Institute . . . has lost one of its most faithful and valuable friends. . . . Professor Ryder's services to the Institute, commencing in the year 1891 and continuing from that time until his death, was given in complete and whole hearted loyalty and his influence upon the student body as Teacher and as Dean was of such a high and valuable character as will always be remembered by those who were so fortunate as to come under his direction. His memory will be held in grateful remembrance by this Board, as well as by both the faculty and student body who knew him.

Sarah Drexel Van Rensselaer died on February 3, 1929. On June 8, 1931, occurred the death of her life-long friend, Lillie Bell Randell. Within two years the Institute had lost its greatest women benefactors. A minute of the Board upon the passing of Miss Randell reads:

RESOLVED, that this Board learns with sorrow of the death of Miss Lillie Randell and desires hereby to record again its high appreciation of the splendid beneficence of this gentlewoman to the Drexel Institute, in gratitude for which the name Randell Hall was given to an important building of the Drexel Institute group; and further to record its admiration of the lovable personal qualities which so endeared her to her numerous friends and associates.

The exacting nature of Dr. Matheson's services to the Institute had severely taxed his strength and health. In May, 1931, by resolution of the Board, he was voted a leave of absence. But Dr. Matheson repeatedly postponed his leave, and on November 29 occurred his sudden and unexpected death. Such was the quality of the man that regardless of self, his sole preoccupation had been to complete the work he had set himself to do.

Provost Josiah H. Penniman, of the University of Pennsylvania, in a memorial address summed up Dr. Matheson's life and service in the following words:

I know of no better example of the wise administration and proper organization of an educational institution than may be found in Drexel Institute as Dr. Matheson left it, in contrast to Drexel Institute as

Dr. Matheson found it, and the secret of it all is Dr. Matheson's wisdom and his lofty character.

The Institute as Matheson found it has been presented in summary at the beginning of this chapter; the progress of his administration has been traced, and so, too, the sound position of the Institute as he left it. But in justice to Dr. Godfrey, his predecessor, Matheson's own fair and generous appraisal of the Godfrey reorganization demands quotation. Evidently some question of the wisdom of reorganizing day instruction upon a collegiate basis had come to him, for in a general summation of policy, in 1929, Dr. Matheson wrote as follows:

It is evident that a fundamental principle in the founding of the Institute was instruction of a vocational nature in art, science and industry. As no human forecast is infallible, it became apparent with the passing of the years that from a perfectly natural standpoint modifications of the curriculum were necessitated by the varying demands of those years. Eventually, results here and elsewhere proved there was no insistent demand for strictly vocational training in the Day School. Enrollment decreased and other facts evidenced the wisdom of a careful revision of the curriculum. In passing, I may say that a similar fate retarded other local schools of a like nature and today the best equipped and endowed of these vocational schools is reduced to several hours daily instruction by reason of meager enrollment.

In the situation confronting them, the Drexel Trustees acted with commendable wisdom which fruitful results have fully justified. As evidenced by the Minutes of the Board, after careful consideration and to meet a growing demand, the standards of the Institute in the Day School for men were advanced to a degree-granting basis in 1914, the first three engineering degrees being granted in 1915. Similarly, the authority to grant degrees to women was established in 1917 and two such degrees were granted in 1919. These progressive actions also attracted the interest of students outside of Philadelphia, and in September, 1918, the Trustees found it necessary to establish a student house for non-resident women, the beginning of the dormitory system for all such students. As all of these changes were effected from four to eight years before my advent in 1922, it is clearly evident that I was in no way responsible for them—though they meet with my unqualified approval, and belief that they insured the permanency and future success of the Institute. It is heartening also to recall that the vocational feature of Drexel has been maintained and developed in

the splendid Evening School, which this year is training 3000 earnest young men and women in the vocations of their choice. So that in addition to fulfilling the original intent in the founding of the Institute, its influence has been greatly expanded and enhanced, not only by highly specialized technical training, but especially by extending instruction in the broader reaches of knowledge which fits our youth for industrial, commercial and civic leadership. Students and society as well benefit largely by thus extending the scope of their potentialities. I was elected by the Trustees to conduct the Institute along the lines which they themselves had determined and which experience had shown to be wise and necessary. This I have done to the best of my ability, though fully conscious of shortcomings.

Matheson's clear, patient statement in vindication of the collegiate reorganization at so late a date suggests that the administrative path he trod—his services to the Institute notwithstanding—was by no means always smooth. Apparently, too, some objection had been made to the raising of student fees which he supported. His clarifying statement illustrates the patient kindness of his character, and his sane faith in the capacity and independence of American youth, a faith which every experienced educator must share:

. . . A movement, practically nation-wide, has gained much momentum in recent years, the object of which is to have collegiate patrons more equally share the cost of education than the proportionate one-third which they are now assessed. I am by no means advocating the adoption of this plan at Drexel, but wish to emphasize the fact that our charges are most moderate and are reduced to a minimum for the large body of coöperative students who "earn while they learn." Vibrant American youth does not wish charity, and experience proves that literally hundreds of students of limited means find it possible annually to avail themselves of the advantages of the Institute. Experience further demonstrates that such advantages are within the reach of ambitious and earnest students even though they may be handicapped by limited means. With the enacted objectives of the Institute clearly defined and understood the continued harmonious coöperation of all concerned should produce the best results.

President Matheson's final report, for 1930-1931, is a verbal panorama of Drexel Institute as he left it. In spite of the financial depression the year was marked at Drexel by increased enrolment of students for degree, with consequent increase in income and

additions to plant and equipment. Faculty prestige had led to national accrediting of the Institute by all major national accrediting bodies. Coöperative placement in this year reached nearly 100 per cent. Increasing alumni interest was also manifest in the last year, the result of Miss Harriet E. Worrell's unremitting work and her gift for creating good will. The year showed augmented provision for student health, success in athletics, and increased student interest in the Reserve Officers' Training Corps. The Evening School enrolment for this year represented 858 firms and industrial plants, many of which sent from 10 to 100 or more employees for training. Dr. Matheson reports upon increases in plant and equipment, the completion of the Sarah Drexel Van Rensselaer Dormitory, the rehabilitation of the adjoining apartment house as the present Home Management House and Nursery School, the dedication of Drexel Lodge, rewiring of the main building, the acquisition of additional ground adjoining the athletic field for hockey fields for women, and the erection of a field house. The estimated surplus for this year was over \$50,000.

Needs for the year were stated to be a single amount of money to liquidate in one premium the balance of accrued liability for past service on the faculty annuity contract, additional acreage for Drexel Lodge, and particularly a dormitory for non-resident men students, who lived then as now in boarding houses in the vicinity of the Institute. An important academic need was the inauguration of graduate work: "In the city of Philadelphia are many graduates of colleges, engaged in business and the practice of their profession, who are anxious to take advanced technical degrees and among our own graduates we are being increasingly questioned as to this possibility at Drexel. This educational field is a fertile one and its cultivation would add greatly to the prestige and service of the Institute."

The best objective summation of Dr. Matheson's services to the Institute appears in the Minutes of the Board of Trustees, dated December 7, 1931:

The Board are shocked and distressed at the grievous loss they have sustained in the sudden death at the age of 67 of Dr. Kenneth Gordon Matheson, President of the Institute. Dr. Matheson at the request of the Board was about to take a much needed vacation of several months.

As President of the Institute and administrator of its affairs, Dr. Matheson possessed a unique combination of the qualities fitting him for such a position. His personality was most attractive, he had great tact in dealing with the Trustees, Faculty and Students alike, readiness in public speaking, learning and wisdom and a remarkable position of influence among the educators of the country by whom he was universally respected and admired. His firm but kindly pressure upon the Trustees and others brought about those improvements of the Institute which have so greatly distinguished his Presidency.

Largely through Dr. Matheson's efforts and the munificent gifts of those whom he interested, the Endowment Fund of the Institute has been increased by a million dollars and useful and important additions have been made to the plant of the Institute, such as Curtis Hall, the Sarah Drexel Van Rensselaer Dormitory, the Athletic Grounds created in conjunction with the Pennsylvania Hospital in West Philadelphia, the conveniences for students in the Men's Lounge, the Drexel Lodge, together with their equipment, and many other improvements, have been established in the less than ten years of his administration.

Under his initiative the educational side of the Institute has wonderfully prospered. The student registration has increased more than three-fold. The Institute has received recognition for scholarship and sound education by the leading Associations of Education in the country, placing it on a par with the foremost institutions of its kind. Above all, perhaps, was the development by him of the then new method of coöperative education with industry by which the public utilities and manufacturing establishments of Philadelphia gladly received and paid compensation to Drexel students for work in their establishments, alternating with their more theoretical work at the Institute; the same method being applied in the Departments of Home Economics and Library Science. Thereby students have not only been assisted in paying their way for their education but have also emerged with their degrees to take up their life work in positions already secured for them.

As a man, Dr. Matheson was universally loved and valued; few could resist his charming personality. His ability to deal successfully with all situations was remarkable. Many more Boards and Associations made calls upon his help and guidance than he could accept, but as a staunch adherent of the Church of his ancestors and a member of the Board of the Presbyterian Hospital, he was enabled to give good service to the causes of religion and philanthropy.

Each member of the Board loved and admired him and his loss to them is a keen personal sorrow.

CHAPTER SIX

PARKE R. KOLBE

PRESIDENT MATHESON died on November 29, 1931. Pending the appointment of his successor, the Board of Trustees, on December 10, placed the internal direction of the Institute in the hands of an Executive Committee composed of R. C. Disque, Academic Dean; W. R. Wagenseller, Comptroller; L. D. Stratton, Dean of Men; and W. T. Spivey, Director of the Evening School. The Committee during its brief term guided the Institute safely along its normal course. Following the commemorative services for Dr. Matheson in the Auditorium, December 7, the Committee sponsored a memorial volume to the late president. On January 27, 1932, it also conducted memorial services for Dean Ryder, on which occasion the clock presented to the Institute under Mr. Ryder's will was unveiled.

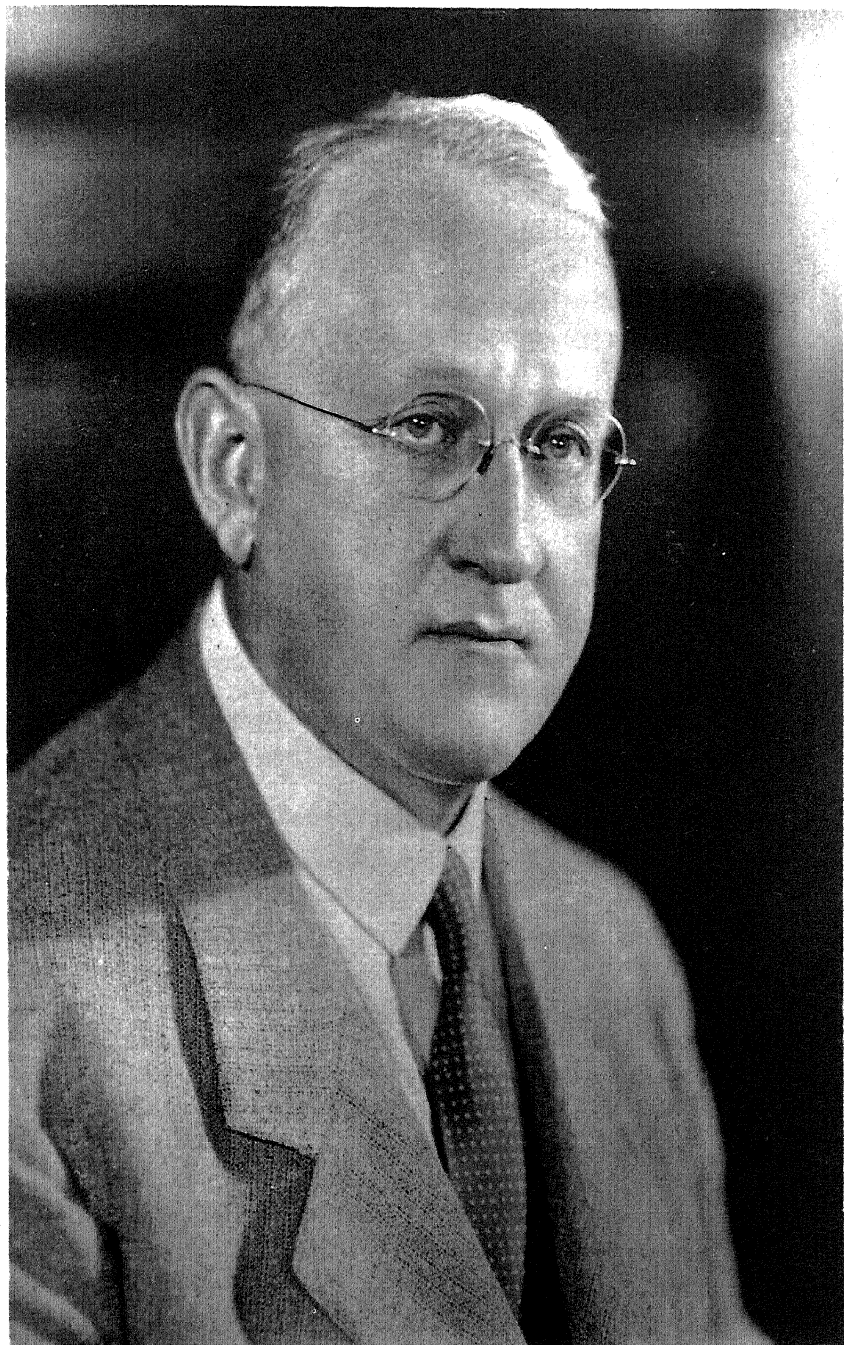
On May 16, 1932, upon invitation of the Board of Trustees, Dr. Parke R. Kolbe made a visit to the Institute, and on June 9 agreed to accept its presidency. Dr. Kolbe was no stranger to Drexel. He had represented the University of Akron at the celebration of the twenty-fifth anniversary of the Institute. He had known both Presidents Godfrey and Matheson. A close personal friend of Dr. Matheson, Dr. Kolbe had been the orator, in 1929, at the dedication of Curtis Hall.

PARKE REXFORD KOLBE*

1881-1942

A native of Ohio, Parke Rexford Kolbe received his first two degrees from Buchtel College, where his father was Professor of Modern Languages, subsequently studying at Göttingen, Paris, and Heidelberg. Especially trained in linguistics, but always interested in the broader phases of education, Dr. Kolbe was, between 1905 and 1913, Professor of Modern Languages at Buchtel.

* This book was in press when President Kolbe died on February 28, 1942. Since he had read the manuscript and given it his generous approval, the writers have decided to make no alterations in the present chapter.



Parke R. Kolbe

In the latter year he was chosen first president of the newly incorporated University of Akron, of which Buchtel had been the nucleus, accepting, in 1925, the presidency of the Polytechnic Institute of Brooklyn. Having served on the Federal School Survey Commission to the Hawaiian Islands in 1919; as head of the United States Bureau of Education Survey Commission to the University of Arizona in 1922; as member of the educational commission to Soviet Russia in 1928; and as sometime president of the American Association of Urban Universities, Dr. Kolbe came to Drexel with a varied experience both in teaching and administration. President Kolbe is the author of numerous articles on philological and educational subjects. His books, *The Colleges in War Time and After* (1919) and *Urban Influences on Higher Education in England and the United States* (1928), throw light upon his sponsorship of national certification of evening technical education in line with practices successfully adopted in the British Isles, and his support of the movement to establish the place of the technical institute in American education. Upon President Kolbe, Temple University and the University of Akron have conferred the degree of Doctor of Laws.

Report on the Institute of 1932 by Dr. Kolbe

During the first year of his administration President Kolbe made a survey of the Institute of 1932. His findings are embodied in a report entitled "A Study of Drexel Institute." This document is detailed, comprehensive, and logically reasoned to a clearly defined program which in the last decade has been patiently adhered to and in part realized, its complete fulfilment depending, as Dr. Kolbe pointed out, on largely increased endowment. The report was distributed to the members of the Board of Trustees in April, 1933, and was discussed by them, certain sections being approved, at a meeting held on October 5, 1933, at the estate of Mr. George W. Childs Drexel. Dr. Kolbe's study will be briefed in order to trace the gradual fulfilment of certain of its proposals, for in this document is revealed the temperate, conservatively progressive policy of the Institute today.

As is well known, the Trustees have at various times in the last two decades contemplated removing the Institute, or divisions of it, to some larger and more attractive site. In considering

this possibility anew the Board, following the recommendation of Dr. Kolbe, determined to retain the present location and to develop it to its fullest extent. The question of a new center for women on the property at Thirty-fourth Street and Powelton Avenue adjacent to the Sarah Drexel Van Rensselaer Dormitory was favorably regarded. The immediate needs of the Institute were discussed in a general way; and so, too, the status of the Evening School. It was the sense of the meeting that a committee should be formed to consider generally the question of expansion of buildings and property of the Institute upon its present site. A calendar of Dr. Kolbe's survey follows:

Section I. Drexel's Place in Philadelphia: After a brief treatment of the Institute's founding, the president points out that Drexel, like many another American institution, sprang from the wish of a wealthy benefactor to educate young people in practical skills. The progress of forty years has modified the original program of the Institute. For many years Drexel has conducted a day college, while its evening classes still serve employed men in accordance with one part of the Founder's plan. Yet the day college has also followed the spirit of the Founder's purpose through coöperative courses in engineering and business training—a system allowing of alternate work in industry and college, and with some remuneration. Drexel, therefore, though keeping pace with changing times, holds true to the Founder's aims. Its future course should be continuance as a professional school. Drexel has found its unique field in Philadelphia.

It is natural and desirable that the Institute strengthen its special educational program. The formula for this lies in increased emphasis upon the pure sciences which underlie the applied courses. Work in pure physics, chemistry, and biology should be intensified. In business training, economics, sociology, political science, and history should be strongly accented. Since chemistry and physics are not only theoretical but often vocational, Drexel should in time offer a degree course in these sciences. The future of the Institute is in the consolidation and strengthening of a position already held.

Section II. Immediate Needs: Space needs have been relieved by the addition of Curtis Hall, yet the Institute of 1930 was over-crowded. Limitation of enrolment, though a relief to such over-crowding, brings natural problems with it. If attendance is to hold at present level, more endowment must make up deficiency in income. Drexel should have at least an additional one million in endowment to meet immediate needs, and within five years an additional million *to improve, not to*

enlarge the scope of work. Endowment is our greatest and most immediate need. Should sufficient endowment become available, major space needs in order of urgency are these: (1) a separate building to house the library and the collections, (2) gymnasium space for both men and women to provide a unified program of physical training at the Institute.

Section III. Drexel's Place in the College World: Standing is determined by certain organizations which admit to membership only colleges of the highest grade of academic integrity. When the late President Matheson came to Drexel he built up an institution with standards so high he secured membership for Drexel in all of the college accrediting organizations. Drexel is now fully recognized by the Association of Colleges and Secondary Schools of the Middle States and Maryland, the Association of American Universities, the Pennsylvania State Department of Education, the American Association of University Women, and such professional organizations as the American Library Association, the Society for the Promotion of Engineering Education, and many other national engineering societies.

Section IV. Possibilities for Strengthening Internal Organization: Under President Godfrey, Drexel became a college, in policy decentralized; for each school stood as an administrative unit. Hence, President Matheson found a situation which, for the fulfilment of his program, needed centralized administration. To this end a Faculty Council was formed to represent the Institute, and to it school faculty meetings were subordinated. School faculty committees reported directly to the Faculty Council. The Schools of Home Economics, Library Science, and Business Administration had directors; the component departments of the School of Engineering—mechanical, civil, and electrical—had professors as heads, and ranked as coördinate to the other schools.

Centralized control worked admirably with a relatively small student body, and a Faculty Council of a few members. But today, the student body numbers 1500, the Faculty Council 50, too large a body to undertake all matters of detail. It is therefore urgent to delegate to the schools authority over problems which are of the schools, providing at the same time responsible central control. It is recommended that the heads of the schools be entitled deans, and that the position and duties of Dean Disque be expressed by the title Dean of the Faculty and of the School of Engineering. Concluding this section, President Kolbe suggests the establishment of a central office of admissions and the expansion of the Department of Physical Education.

Section V. Publicity and Prestige: Effective publicity has been attended by a steady enrolment increase. But feeling exists that salesmanship has been too strongly stressed and dignity sacrificed. More effective publicity can be secured by bringing high school students to the Institute to inspect its facilities at first hand. Collegiate prestige and standing are not dependent upon publicity. Nothing is so to the credit of a college as reputation for graduate work and research. It seems vital we undertake such work in science, both pure and applied. Research and publication can hardly flourish among a faculty with the present heavy teaching load. Relief in this is one of the main reasons for seeking additional endowment. Exchange professorships and visiting professorships should be established, and so should graduate assistantships and lectureships, such as the recently created Alexander Van Rensselaer Lectures.

Section VI. Miscellaneous Matters: In this section Dr. Kolbe grouped the following recommendations and suggestions: clubrooms for the faculty; better facilities for displaying art and museum collections, and the need of a paid curator; alterations in provision for faculty retirement; publication of systematic annual reports by the Institute; and alumni organization.

Section VII. A Comprehensive Program for Development: In closing, Dr. Kolbe affirms that what has been said relates to present necessities. He now outlines a program for the future, predicated upon the assumption that funds will be forthcoming to assure the fulfilment of this program.

Recommending that all plans for the removal of the Institute be deferred, Dr. Kolbe urges careful study of the possibilities for growth and improvement in the present location. The construction of a center for women on the plot by the Sarah van Rensselaer Dormitory would make available needed space. A building on the lot east of Curtis Hall, additional stories on Curtis Hall itself, and a tower construction above the Great Court are other possibilities for expansion on property already owned by the Institute. Any of these developments should result in improved facilities for more thorough work, in research laboratories, and in provisions for graduate study, rather than in greatly increased attendance.

The concluding section of Dr. Kolbe's lucid and able survey of the Institute of 1932-1933 consists of a summary of the key suggestions and recommendations calendared above. The proposals made in "A Study of Drexel Institute" which could be accomplished without greatly increased revenues have largely

been accomplished within the last decade. The recommendations which were made tentatively and for the future, and which were contingent upon sizeable expenditures, still remain sound goals. Toward them the Institute should move steadily but conservatively.

Decentralized Administration

As has been shown, Drexel Institute began with eleven virtually autonomous departments. Central control rested in a small administrative staff, but chiefly in the personal force of President MacAlister. Under Dr. Godfrey came the modern schools, the emergence of a pale advisory function for the Major Faculty, and expanding administrative direction under a dynamic president. Inheriting a relatively small college, President Matheson, in the interest of more consistent centralized control, created a compact Faculty Council, which, meeting weekly, acted upon numerous matters relating to the separate schools, as well as upon general Institute policy.

The story of Drexel's remarkable growth during the Matheson administration has already been told. During this period student enrolment and faculty personnel rose sharply and physical facilities expanded rapidly. The Faculty Council, however, remained much the same. In seven years its membership increased from nineteen to only twenty-eight. To this body, through deans, directors, and committees, the problems of upward of 1500 students had finally to be referred for solution. Thus, an increasing burden was placed upon the Council, which, as the general faculty grew, became a smaller component of the whole teaching staff, and perhaps somewhat less representative of it.

In the first year of his administration, President Kolbe recommended to the Board of Trustees a plan for a more decentralized administration of the Institute. Adopted in the spring of 1933, the plan became fully effective in the fall of that year. Accordingly, faculties with broad self-governing powers were formed in each school of the Institute: Business Administration, Engineering, Home Economics, and Library Science. The administrative head of each school was given the title of dean.

School faculties had, of course, existed under Dr. Matheson, but as deliberative bodies, empowered only to forward reports

and recommendations to the Faculty Council. Under the Kolbe plan the Council was expanded to include all teachers of professorial rank, its membership rising from twenty-eight in 1932 to sixty-seven in 1933. At present seventy-four sit on the Council, to which each school faculty reports its significant actions, but for record only. All separate school faculties are, however, responsible to the Council in matters involving two or more schools, departments serving more than one school, and the Institute as a whole. The more representative Faculty Council has worked well; business has been quickly handled; and the school faculties have carefully used their powers.

Related to decentralization, but differing in principle, was President Kolbe's proposal of a central office of admissions. In the early years of the Institute, admission was by departments; today it is by schools, which have somewhat divergent requirements, both scholastic and personal. From admission to graduation and placement, the life of a Drexel student is normally centered in his school. Though admission and placement services have been expanded under President Kolbe, neither has been centralized in a single office. They remain the concern of the separate schools and of the Director of Coöperative Education and his staff.

Research: Student Health

Other proposals made by Dr. Kolbe in 1933 have, like decentralized administration, become realities: increased activity in research, a program of physical education for men, improved methods in publicity, establishment of faculty clubs, better display of the Institute collections, publication of annual reports, and the purchase of an athletic field.

"I know nothing which so redounds to the credit of a college as a reputation for the conduct of graduate work and participation in research," wrote Dr. Kolbe in 1933. Since then, in faculty meetings and in annual reports, he has repeatedly urged the value of research and graduate study to the Institute. A faculty committee makes a yearly survey of scholarly work completed or in progress. Though a satisfactory program of research still awaits adequate financial support, clear advances have been made toward such a program.

From the beginning physical education occupied an important place in Drexel education—and still is accented in the curricula for women. With the establishment of compulsory military training and the concurrent expansion of intercollegiate athletics, physical education for men lapsed for a time. At Dr. Kolbe's insistence Drexel has revived a valuable feature of its early tradition: a short course in physical training for all first-year men has been established.

Publicity: The Art Committee: Clubrooms

The prestige of the Institute has been advanced through conservative use of the press and through official publications. Effective, if less direct promotional methods are Drexel's field days for high school students, Open House, and the enlistment of alumni advisers, who do not solicit students but interview and inform them upon request. An additional good-will feature has been, of recent years, the Institute's extension of service in vocational guidance, at a nominal fee, to all in the Philadelphia area who care to avail themselves of it.

Proper supervision of the art and museum collections of the Institute, and their more effective care and display, have been the concern of Mr. E. P. Simon, alumnus and trustee, and Miss Dorothy Gaffy, curator. Their work, and that of the Advisory Art Committee, in sponsoring art appreciation at the Institute has been fully acknowledged elsewhere.

The first sponsorship of social amenities within the buildings of the Institute was undertaken by Dr. Godfrey when he converted the Picture Gallery into a Women's Union. Many other such steps have followed, none more gracious than the establishment of the Men's Faculty Club and the corresponding Ryder Club for the women of the faculty and the administrative staff. Opened in the fall of 1934, these rooms were made possible by the generous bequest of J. Peterson Ryder. It is safe to say that these clubrooms have done, in terms of more social living, what Dean Ryder, in making his bequest, desired them to do.

The Annual Reports: Real Holdings

The publication of annual reports by Dr. Kolbe was a happy innovation. Printed and distributed as planned, these reports are

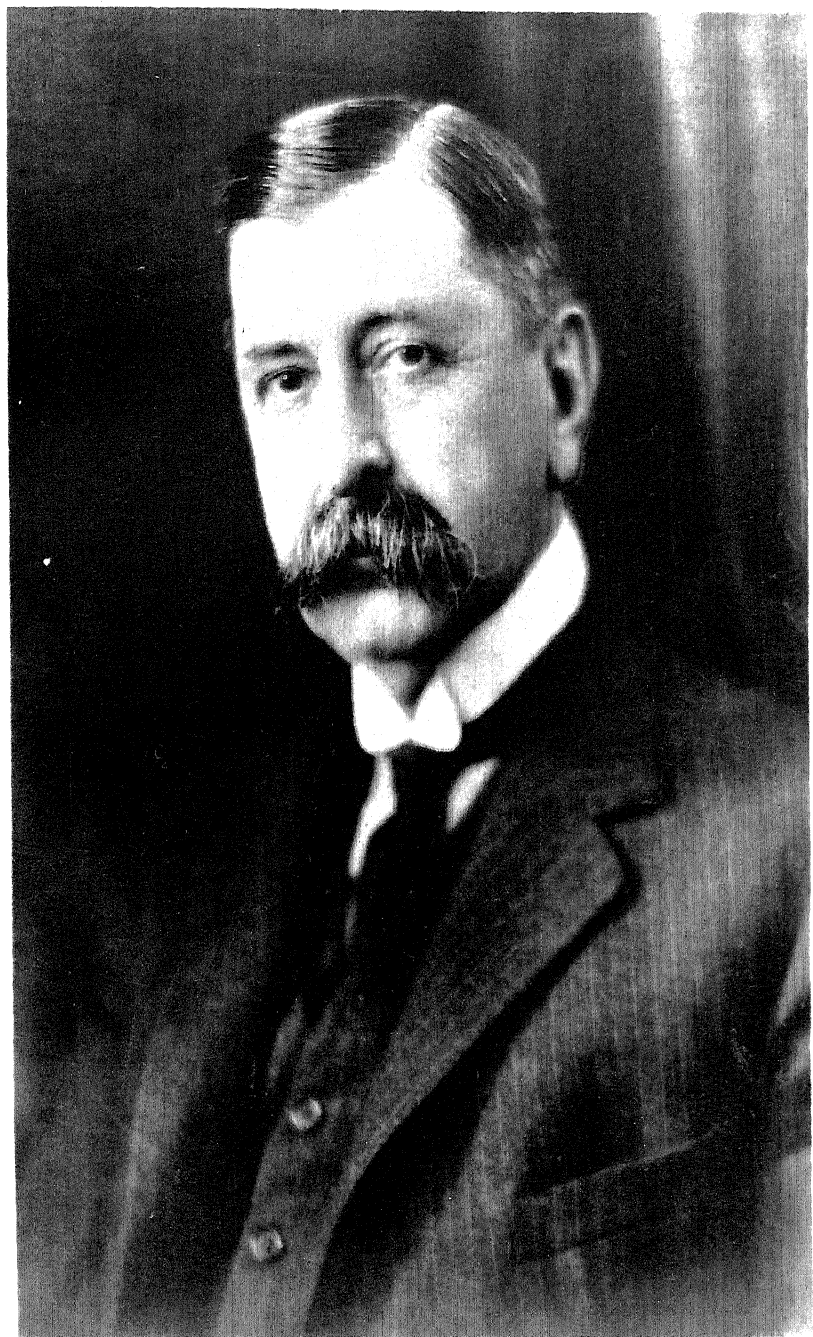
the authentic annals of Drexel, valuable as present commentary, invaluable as future history. The reports, which are essentially factual, represent the combined work of the administrative staff: president, deans, directors, comptroller, registrar, and heads of departments. It may be said that the annual reports exceed in importance any other single record of the Institute's year-to-year development.

The Institute has recently purchased a tract of land at Sixty-ninth Street and Marshall Road in order to have, if need arises, an athletic field of its own. This purchase accords with one of President Kolbe's earliest recommendations. Of his proposals of 1933 only three have fallen short of realization; and of these, two are contingent upon the third. A most urgent present need of the Institute is a library building, in which, among other things, the collections could be properly housed. A useful addition would be a really modern gymnasium to implement something more than a compromise program of physical training for men. These and other developments must await increased endowment or generous special gifts.

Repeatedly the administration has affirmed that the pressing needs of the Institute are additional space and more endowment: space to meet needs like those just mentioned; endowment to provide adequate salaries for staff and to lighten individual teaching loads in order to make possible research and graduate work. "Nothing can so favorably affect the morale of an institution. . . . Drexel has both laboratory facilities and personnel suitable for setting up a graduate program. Time and space are the elements which only additional endowment can and must eventually furnish."

THE PASSING OF DISTINGUISHED TRUSTEES

The latter months of President Kolbe's first year at Drexel were saddened by the death of two of the Institute's most generous benefactors, Cyrus H. K. Curtis, who died on June 7, 1933, and Alexander Van Rensselaer, whose death occurred in the following July. For more than thirty years Mr. Van Rensselaer and his wife, Sarah Drexel Van Rensselaer, were in the life of the Institute veritable figures against the sky. To their unfailing kindness and interest, their manifold gifts and services, the Institute's best



Alexander Van Rensselaer

tribute is restraint. The good offices and magnificent gifts of Cyrus H. K. Curtis occurred during Dr. Matheson's administration. Both Mr. Van Rensselaer and Mr. Curtis, though they died at advanced ages, were active in the interests of the Institute to the last.

It is a delicate matter to strike a mean between much and little in memorial acknowledgment to benefactors, whether their gifts have been those of substance or service or both. The Resolutions of the Board of Trustees afford formal, but significant testimony of the indebtedness of the Institute and all associated with it to these men:

RESOLVED, That the passing away of Cyrus H. K. Curtis has left a vacancy in this Board that it will be almost impossible to fill;

That in Drexel Institute Mr. Curtis magnificently exemplified his testamentary declaration that such provisions as he proposed to make for charitable and educational purposes he would take care of while living, in order that such institutions might have the benefit of such gifts without being obliged to await his death;

RESOLVED, That although so far as it is possible, this Board has already uttered by resolutions in his lifetime its grateful thanks for the munificent gifts with which Mr. Curtis demonstrated his interest and belief in the Drexel Institute, the Board now again expresses its deepest thanks to the departed benefactor, as a message of farewell.

On September 21, 1933, Mr. J. Rodman Paul presented, and on motion the Trustees adopted by standing vote the following minute:

Since its last meeting the Board has again suffered a grievous loss in the death on July 18, 1933, of its beloved President, Alexander Van Rensselaer, M.A., LL.D., at the age of eighty-two, after a long illness borne with manly fortitude.

Mr. Van Rensselaer became a Trustee of Drexel Institute in 1897, and was, from October 29, 1908, until his death, President of the Board. His interest in the Institute was ardent and unflagging. Except through illness or grave necessity, he was never absent from the meetings of the Board and other gatherings of the Institute, over which he presided with the dignity and courtesy so characteristic of him. Besides the large benefactions made to the endowment and development of the Institute by himself and his wife, who always stood by his side with equal devotion, he was continuously helpful in a quiet way in providing for smaller needs and emergencies as they arose. Through

lineage as the grandson of Stephen Van Rensselaer, founder of Rensselaer Institute, and through his own experience as graduate and Trustee of Princeton University, he has always been interested in collegiate affairs and gave to Drexel Institute his best thought and solicitous attention. His advice and opinions were sound and respected by his colleagues.

This is not the place to dwell upon his other varied and important activities in this community. As a patron of music, in sportsmanship, in philanthropy, in his social gifts and boundless hospitality, he was recognized as a leading citizen far beyond the limits of his city. All these wide contacts and means of influence were at the service of the Institute and were for it an invaluable asset which cannot be replaced. . . .

On September 21, 1933, President Kolbe suggested that memorial services for Mr. Curtis and Mr. Van Rensselaer be held jointly, and at the next meeting of the Board the date was set for November 1, 1933. On that date a formal assembly and memorial services were held at the Institute, Trustee J. Rodman Paul delivering a memorial address upon his friend Alexander Van Rensselaer, and the Honorable George Wharton Pepper delivering the address upon Cyrus H. K. Curtis.

In the last decade, the Trustees have suffered other serious losses through death. Colonel Anthony J. Drexel, eldest son of the Founder, died on December 14, 1934, his brother John Rozet Drexel, on May 18, 1935. Both had been original members of the Board. Samuel M. Curwen, Effingham B. Morris, Edgar C. Felton, and J. Rodman Paul are other Trustees whose long and distinguished services to the Institute were in this period terminated by death.

The Alexander Van Rensselaer Lectureship

In the spring of 1933 the Trustees established in honor of Alexander Van Rensselaer a lectureship. Annually a person of distinction in the field of science, of arts, or of affairs is invited to address the Drexel community and the public. Enrolment of the Van Rensselaer lecturers for the eight years 1933 to 1941 follows:

1933-1934

Karl T. Compton, D.Sc., D.Eng., Ph.D., LL.D., President of the Massachusetts Institute of Technology.

Subject: "Possibilities and Difficulties of High Voltage Engineering"

1934-1935

Bernard Fay, A.M., Agrégé des Lettres, Docteur ès Lettres, Professor of American Civilization at the Collège de France.

Subject: "Literature and the Modern World"

1935-1936

Arthur Haas, Ph.D., Professor of Physics at the University of Vienna.

Subject: "What Industry May Expect from the Development of Modern Theoretical Physics"

1936-1937

George Hoyt Whipple, M.D., Dean of the School of Medicine and Dentistry at the University of Rochester.

Subject: "Blood Hemoglobin Production within the Body as Influenced by Diet and Other Factors under Experimental Conditions"

1937-1938

Glenn L. Martin, President, The Glenn L. Martin Company.

Subject: "The Application of Aircraft to the Needs of Mankind"

1938-1939

Alfred P. Sloan, Jr., Chairman of the Board of General Motors Corporation.

Subject: "A Great Corporation from Within"

1939-1940

Dr. Walter Damrosch, eminent composer and musical director.

Subject: "Reminiscences of a Musical Life"

1940-1941

His Imperial Highness Archduke Otto of Austria.

Subject: "European Outlook"

Gifts and Scholarships

Though the uncertainty of the times has borne in upon both the administration and Trustees of the Institute the inadvisability of embarking at present upon a formal endowment campaign, alumni and friends over the past decade have given generously, and through their gifts made possible the realization of the more immediate of Dr. Kolbe's aims and proposals.

On September 21, 1933, a letter was presented to the Board of

Trustees from the executor of the estate of Alexander Van Rensselaer, giving formal advice of the bequest of \$25,000 willed to the Institute by Mr. Van Rensselaer without any qualification or limitation of use. In the spring of 1933, Mr. A. J. Drexel Paul, successor to Mr. Van Rensselaer in the office of president of the Board of Trustees, had purchased and presented to Drexel Institute for use in connection with his former gift, the Drexel Lodge, at Newtown Square, an additional five-acre tract of land. Another purchase by Mr. Paul in the following year brought the total gift to its present twenty-two acres of field and wood, with tennis courts and playing grounds. The property, carefully landscaped during the last decade, is today a country haven for Drexel students, faculty, and friends.

In September, 1933, the Trustees were informed by the executor of the estate of Lillie Bell Randell, who by an earlier generous gift had cleared the debt on East (now Randell) Hall, that securities in excess of \$400,000 were being transferred to the Institute under Miss Randell's will. In 1938, Arthur H. Lea bequeathed the Institute the sum of \$50,000, with the sole stipulation that the principal remain intact.

Among the persistent needs of the Institute is the need for scholarship and loan funds to help deserving and gifted young men and women. It is certain that Drexel has a much smaller fixed income for this essential purpose than many other colleges less well endowed: a strange and anomolous situation. Nevertheless, during the last decade many organizations and friends of the Institute have responded to the need for scholarship and loan funds, and it is fitting that their generous spirit be here acknowledged.

Mr. George W. Childs Drexel, continuing his support of the Mary S. Irick Drexel Award to the alumni of the Evening School, made additional contributions for post-diploma courses in this division of the Institute, as well as for awards to honor students in the Reserve Officers' Training Corps. The Alumni Association, the Drexel Women's Club, and the Philadelphia Board of Education have continued their support of those scholarships which they have for some years maintained. During the last decade scholarship aid has been provided by the late Edgar C. Felton, the late Effingham B. Morris, the late J. Rodman Paul, Mr. Sam-

uel Fels, Mr. Gordon P. Drexel, Mr. James E. Gowen, Mrs. Robert K. Cassatt, Mrs. Gouverneur Cadwalader, Mrs. Charles A. Munn, Mrs. Radcliffe Cheston, Mrs. Jacques Allez, Mrs. Paul D. Mills, Mr. A. J. Drexel Paul, Mr. Effingham B. Morris, Jr., Mr. W. M. Irish, Mr. Morris Fels, Mr. E. P. Simon, Mr. Horace P. Liversidge, Mr. John W. Converse, and Mr. C. Wesley Armor.

Loan and scholarship funds have also been made available to students through bequests of Alexander Van Rensselaer, J. Peterson Ryder, Mary M. Garrett, and E. L. Cunningham. In 1938, Mr. Alfred P. Sloan, Jr., invited to deliver the Van Rensselaer Lecture, added to the honorarium a sum sufficient to create a loan fund of \$1000, an unusual and generous gesture. In addition, the Drexel Women's Club assists students with loans. Recently established by the alumni is the Arthur J. Rowland Award; and by the Baldwin Locomotive Works, of which former Trustee Charles E. Brinley is president, two scholarships. The George Baugh Heckel Scholarship has recently been established by an association of Philadelphia paint manufacturers.

These—except for the Charles E. Etting scholarships and grants from funds designed to memorialize Mrs. William Penn Troth, Alice B. Kroeger, and Maude G. Hopkins—constitute in large part the outside resources available to the Institute for direct financial assistance to students. If the list of benefactors in the recent past seems to be a long one, it is to be remembered that the enrolment at Drexel, day and evening, is currently over five thousand; and that owing to the relative insufficiency of fixed external gifts, the Trustees are compelled annually to remit the tuition in whole or in part of many deserving students. While this is sound and justifiable practice, it does put a serious tax upon general Institute income. In recent years, of course, the National Youth Administration has helped to ease the student aid problem, but what is needed is a long-range plan like that proposed by President Kolbe in 1933, and then designated the Drexel Institute Scholarship Association. Drexel has fewer permanent funds for student loans and scholarships than have many small and far from wealthy colleges. Such funds are badly needed; their provision would be for the Institute and its students a useful benefaction.

Orientation and Guidance

Orientation projects, begun under Dr. Matheson and sponsored by the student branches of the Christian Association, have been expanded under President Kolbe. Programs are planned to familiarize all freshmen with the college and its activities, and to introduce them to their personal advisers and to chosen upper-classmen. Since 1933, more and more effort has been made to acquaint Drexel students, especially juniors and seniors, with occupational and professional fields for which their training at the Institute best fits them. In his report for 1932-1933, President Kolbe writes:

A vocational conference will be held during the spring of each year in various departments of the Institute for those persons interested in the scope of the fields treated and the professional opportunities which they offer. Speakers will be drawn from Philadelphia and abroad. The first conference of this sort was held in the School of Home Economics during the spring of 1933.

Since that date vocational conferences have been variously held, leaders in the practice of vocational fields for which the several schools train addressing seniors in those schools and discussing with them informally the precise nature of the work and the remuneration to be expected. In this way students are aided in determining the major most congenial to their tastes immediately before they enter their final year of work.

Gradually, vocational guidance has been expanded under Professor George C. Galphin of the Department of Education and Psychology. In 1938, a guidance clinic was established to advise high school students on the general fields of college education, and to test and ascertain the students' fitness for the various types of college work. Orientation and guidance programs are in part the culmination of a drift away from direct promotional efforts adopted in days when increased enrolment was a vital factor. Since the middle thirties there have been more applicants than the Institute could care for, and one policy under Dr. Kolbe has been to raise entrance standards progressively and limit the size of the freshman class in all schools of the Institute. Accordingly,

enrolment promotion has given way to a systematic education of the local public to unique opportunities at Drexel for the more gifted and enterprising students.

Related to orientation and guidance is a study of admission requirements at Drexel recently made under the direction of Professor Galphin, assisted by Professor W. N. McMullan and Mr. Philip Zink. In this investigation the quintile ranking,* at the end of their freshman year, of all students admitted between 1935 and 1939 was compared with the quintile ranking of these students in their respective secondary school classes. These rankings were further compared with ratings in psychological and reading tests taken upon matriculation. It is believed that the results of this study will be useful in guiding future admission policies at Drexel.

As early as 1932, when, as a result of the depression, enrolment tended to drop, Drexel embarked upon a course of promotion less direct than before. On November 17, 1932, President Kolbe announced that he was arranging for a display and exhibition of the facilities of Drexel Institute under the title of Open House to be held in January. Invitation was extended to students of all high schools of the greater Philadelphia area, to their parents, and to members of their school faculties. In this way began Drexel's Open House, a new departure for the Institute, yet something of a resurgence of the early Drexel custom of holding annual exhibits at commencement time and on other special occasions. Response to Drexel's first Open House was in excess of expectation; visitors numbered well over 2,000. Open House of the following year drew over 4,000, and until its temporary discontinuance in 1938, the number showed progressive increases. Two considerations prompted its discontinuance in that year: first, the fact that the Institute had reached a peak enrolment; and second, considerations of budget. Open House is scheduled for 1942.

A comparatively recent feature of Open House is the Student Conference, held in the Drexel auditorium and sponsored by Professor Galphin and the Suburban Principals' Association. The Con-

* Division, upon a basis of aptitude, of classes into fifths, with 20 per cent of the total group in each fifth.

ference, first referred to in the Annual Report of 1937-38, was attended at its initial meeting by 1,500 high school students. Preliminary group discussions were held in the various classrooms, and later the results of these discussions were reported to the entire assembly. The general subject of this date was "Extracurricular Activities in the Secondary School."

Change of Name

The fifth amendment of the Charter of the Institute reads in part as follows:

By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated March 30, 1936, and recorded in the Office for the Recording of Deeds in and for said County, in the Charter Book No. 127, page 525, etc., on May 19, 1936, the first paragraph of the Charter was amended to read as follows:

First.—The name of the corporation is Drexel Institute of Technology.

The appropriateness of the corporate name, The Drexel Institute of Art, Science, and Industry, was first questioned after the Art Department was dissolved, and again after the Day School had been reorganized at the college level. In 1935, at the suggestion of President Kolbe, the opinions of alumni and faculty members in the matter of finding a more descriptive name for the Institute were canvassed by means of a questionnaire. A considerable majority favored a change and chose, from a number of possible designations, Drexel Institute of Technology.

THE PRESSURE FOR SPACE

As early as 1933-1934, a year in which total registration day and evening at the Institute numbered 3,272, need for space had begun to make itself felt. Increasing schedule difficulties made necessary the addition of Saturday morning classes in the various departments. This, wrote President Kolbe in his Annual Report for 1933-1934, worked hardship on students dependent upon outside work; but under the conditions of the time, the Institute was forced to make use of plant and equipment at every opportunity.

By 1935 enrolment at the Institute was rising steadily. In consequence, the privilege of admission upon secondary school certification alone was denied to those who graduated in the lower two-fifths of their classes. Examinations were required of all who applied for entrance within this range. Numerical limitations were imposed upon entering classes in chemical engineering and in the School of Home Economics. A committee was appointed to make a study of the problem of admission by quotas. By 1936 it had become necessary to establish limits upon the entire entering class. The committee appointed to consider the question recommended for the School of Engineering, 300; for the School of Business Administration, 200; for the School of Home Economics, 100; and for the School of Library Science, 50. To provide a flexible policy of admissions within the total limit set for entering students the Committee on Admission and Credits was given discretionary powers. Even so, in recent years applicants for certain courses in both the day and evening sessions have had to be turned away.

In the face of rising enrolment and rising price levels President Kolbe in his Annual Report for 1937-1938 once more gave detailed figures on the financial needs of the Institute, citing the intensive use of its plant and the lamentable lack of space for expansion. A year later, Dr. Kolbe, again urging the need for space, wrote: "The financial position of the Institute is sound. We have, up to the present time, managed to live well within our income. However, there is but little margin left for the salary increases which are so vitally necessary if we are to maintain the excellent personnel and high morale of our teaching staff. . . ." Referring to Drexel's comparatively low tuition fees, Dr. Kolbe suggested the feasibility of a slight increase in such fees for both day and evening sessions. In so doing the President maintained a position consistently held, and reaffirmed in the Annual Report for 1939-1940: "Of course all needs come back eventually to the question of additional endowment and income." This section may be fittingly closed with a statement of registration figures from 1932 to date. It is to be noted that except for slight drops in enrolment in 1933 and 1938, a substantial rate of increase has been maintained in the last uneasy decade.

<i>Year</i>	<i>Day</i>	<i>Evening</i>	<i>Total</i>
1932-33.....	1,589	1,868	3,457
1933-34.....	1,478	1,794	3,272
1934-35.....	1,507	1,965	3,472
1935-36.....	1,592	2,166	3,758
1936-37.....	1,691	2,584	4,275
1937-38.....	1,858	3,126	4,984
1938-39.....	1,974	2,925	4,899
1939-40.....	1,933	3,051	4,984
1940-41.....	2,124	3,370	5,494

Added Facilities

Though less spectacular than in the preceding ten years, the physical growth of the Institute during the last decade has been steady. Throughout the years from 1932 to 1941 equipment and apparatus have been added to all divisions of the Institute. As need has arisen the entire physical plant, including the Sarah Van Rensselaer Dormitory, has been renovated, and the whole plant excellently maintained.

Certain new facilities acquired in the last decade, such as the faculty clubrooms, the additions to the Drexel Lodge grounds, and the fifteen-acre tract of land at Sixty-ninth Street and Marshall Road, have been mentioned. In 1937 a fifth story containing nine classrooms was added to Curtis Hall. The property at 28-34 South Thirty-second Street, long used gratis by the Institute for cafeteria and classrooms, was acquired from the Drexel Estate pursuant to the policy of the administration of purchasing additional land in the immediate vicinity of the Drexel site. In 1940 the real holdings of the Institute were increased by the acquisition of the lot on the northwest corner of Chestnut and Thirty-second Streets from the Pennsylvania Railroad in exchange for a strip of land lying along the Company's siding east of Curtis Hall.

The year 1938 witnessed a notable development when the students of the Institute, under the leadership of Isaac John Haviland, voted to assess themselves five dollars annually for the purpose of providing and maintaining what has come to be the Student Building. President Kolbe and the Trustees coöperated with the students in finding a suitable building site. Upon the

recommendation of Mr. E. P. Simon, chairman of the Trustees' Committee on Buildings and Property, in 1939 the building at 3110-16 Market Street was purchased. Under the direction of Mr. Simon the building was remodelled, decorated, and furnished, and Mr. A. K. Van Tine, assistant to the Dean of Men, was appointed director. Mr. Van Tine is chairman of a committee of eight, consisting of the Dean of Men, the Dean of Women, and three men and two women from the student body. The committee so formed has control of the Student Building, now the center of many social and other extracurricular activities. To those who are inclined to question the spirit of Drexel undergraduates the Student Building is a challenge. A new and valuable accession to the Institute plant, it is not only self-liquidating through charges voted upon itself by the student body, but is and will be maintained by such charges.

Though the actual building program planned for the Institute, and ultimately essential, has been somewhat limited in the last decade, ample facilities exist in real holdings. There is, to sum up, extensive frontage on Chestnut and Thirty-second Street; additional frontage east of Curtis Hall; a substantial lot adjoining the Sarah Van Rensselaer Dormitory; the fifteen acre tract at Sixty-ninth Street and Marshall Road; and the twenty-two acres at the Drexel Lodge on West Chester Pike. Finally, it now appears likely that the Institute may for an indefinite future occupy, through the generosity of the Trustees of the Pennsylvania Hospital, the athletic field at Forty-sixth Street and Haverford Avenue. Hence, for however versatile an expansion program, a varied provision exists. Conservatively and slowly, moving always within its means, the Institute has prepared for future eventualities.

DREXEL INSTITUTE TODAY

Today, Drexel Institute comprises, as in Dr. Matheson's time, the four schools of the Day College, Engineering, Home Economics, Business Administration, and Library Science; and the Evening Diploma School. The history of these will be traced, each in its growth and development, its present facilities and opportunities, and its needs, in chapters to follow. The present administration, however, departs somewhat from the centralized administration compelled by the conditions of Matheson's time.

Designation of specific authority has been achieved by the general plan of decentralization. In addition, certain other administrative accomplishments, not classifiable under the program formulated by Dr. Kolbe in 1933, remain to be discussed.

In 1934 a provision of indefinite tenure for the faculty, that is to say, teachers and officers holding the rank of assistant professor or higher, was adopted by the action of the Board of Trustees. Designed to guarantee the security so necessary for effective teaching, this action, in line with the best college practice, had the collateral advantage of encouraging research and graduate work. The chief among various research projects at Drexel since 1933 has been the development of the tri-dimensional vibrograph by Professor J. E. Shrader, of the Department of Physics, to whom special funds for research were granted by the Trustees. Professor Shrader was in 1935 awarded the John Price Wetherill Medal of the Franklin Institute for his invention. A program of graduate work in the School of Home Economics, also a development of the last decade, is elsewhere discussed. Acknowledgment, necessarily brief, must also be made of the development of the biological sciences at Drexel under Dr. W. L. Obold; of the outstanding work of Dr. C. W. Eldon in history and Dr. Oscar Wesley in sociology; and of the revivification of fine and applied arts teaching at the Institute by Mrs. Edna Brandau and Mrs. F. Virginia Dillmore of the School of Home Economics.

On December 17, 1936, President Kolbe announced the celebration of the fiftieth anniversary of the founding of the Institute for the year 1941-1942. More specific formulation of the plans was begun in 1939 and 1940, the Trustees authorizing a representative committee of five to assume the responsibility of organizing and administering the celebration. The committee comprises Mr. C. H. Krumbhaar, Jr., for the Trustees; President Kolbe for the Institute; Dean L. D. Stratton for the faculty; Director W. T. Spivey for the Evening School; and Mr. Charles Warner for the alumni.

As it enters its semi-centennial year Drexel Institute is actively aiding in the defense program of a nation at war. The nature and organization of this effort has been treated at some length in the chapter devoted to the School of Engineering; but an event leading up to the Institute's participation of Engineering Defense

Training is in point here. In a report placed before the Board of Trustees, dated June, 1940, Dr. Kolbe referred to a request from the Commissioner of Education, who was then making a preliminary survey of colleges equipped to organize intensive courses for technical training at professional level. Naturally, the Commissioner was informed of the Institute's willingness to coöperate and to inform him concerning its facilities.

In October, 1940, Drexel Institute was selected to represent and coördinate for the United States Office of Education work in the Engineering Defense Training at the college level in this area, designated as Region 6. Mr. W. T. Spivey, Director of the Evening School, was chosen to conduct the survey. Dr. Kolbe stated that he regarded this action as a high compliment to Drexel. In December the work was organized at the Institute, and six initial courses were given to men employed in defense industries at their places of employment, the work beginning January 2, 1941. By June the number of courses so organized—inspection, marine engineering, aeronautical engineering, and machine tools—had grown to sixteen. The announcement of October, 1941, by Professor W. J. Stevens, chairman of the Committee at the Institute in charge of Engineering Defense Courses, shows that Drexel's scope of service has been greatly enlarged for the semi-centennial year. At the present writing, courses offered by Drexel under the federal program number thirty-seven.

Drexel's leadership in the national defense program for this area continues a tradition set in 1917, the twenty-fifth anniversary of the Institute's founding, when short courses were organized at the Institute, and Professor H. V. Gummere allocated groups of selectees for free training in the local secondary and vocational schools. Today Director Spivey, coöordinating the work of participating colleges in Pennsylvania, Delaware, and southern New Jersey, allocates students to be technically trained at college level.

The administrations of the presidents of the Institute have now been traced. The current administration of Dr. Kolbe began in 1932, a depression year. The decade since has been one of insecurity at home and deepening tragedy abroad. Today we are at war. Times so uncertain compel a conservative administrative course. Drexel has operated within its budget. Security has been

assured for the major faculty. By slow degrees the real estate holdings of the Institute have been extended. Entrance requirements have been raised and standardized for all schools, and have been made more selective by admission limitations and school quotas. Internal organization has been strengthened and the burden of administrative offices clearly defined by specific delegation of function. In sum, the planned policy of the current administration suggests that the Institute is building and husbanding strength against a more opportune time, certain to come, when it will be able, not only to conduct its teaching services at their present levels, but with fully adequate facilities to extend those services into graduate and research fields.

CHAPTER SEVEN

THE ARTS TRADITION

THIS chapter traces at some length the history of the broadly cultural departments, formally terminated by 1914, or soon thereafter modified, whose influence still persists as a living force in Drexel education. Though these departments no longer exist as such, some knowledge of their services, now admittedly attenuated, is basic to an understanding of the Institute, not only as it was yesterday, but as it is today.

Fine Arts, under whose aegis Architecture, Applied Arts, and the School of Illustration soon came into being, and the Museum were charter departments of the Institute. Choral music, beginning under the Department of Lectures and Evening Classes, became substantially a department in 1898, and was formally constituted as such in 1903. Free Public Lectures, too, began as a section of the Department of Lectures and Evening Classes, becoming in 1896 the Department of Free Public Lectures and Entertainments. Thus, in the sixth year of the Institute, the Department of Lectures and Evening Classes had become a triad, comprising Evening Classes in Choral Music, Evening Classes, and Free Public Lectures and Entertainments. Architecture in the Day School, beginning as architectural drawing in both Mechanic Arts and the Art Department, became, in 1894, a two-year course under Fine and Applied Arts. Constituted an independent department in 1905, Architecture four years later increased its course to three years. With all of these former divisions of the Institute, Evening Classes excepted, this chapter is concerned.

Long ago dissolved as functional units, each of these departments has continued in modified form, and thus each continues at the Institute today. The arts tradition, though Fine Arts formally terminated in 1905, is the matrix of all applied art, now strongly accented in two curricula of the School of Home Economics, as well as in the architectural courses of the Evening School. Though lectures are no longer given departmentally and

—the Van Rensselaer lectures excepted—for the general public, speakers of distinction commonly address assemblies at the Institute, and a fund exists for the continuance of this service. Choral Music is the archetype of many forms of group singing in which traditionally Drexel students have sought, and even yet seek, musical self-expression. And for years the free use of the Drexel auditorium has admittedly helped sustain the Choral Society of Philadelphia. Because of pressing need for space, the Museum has been dispersed, but the larger part of it is still with the Institute, and serves, as in earlier days, many needs in applied art instruction. Architecture occupies a place of importance in the Drexel Evening Diploma School today.

THE ART DEPARTMENT

1892-1905

The Art Department, a charter division enrolling students in March, 1892, offered by the following September a regular art course of four years, a normal course of two years, mechanical and architectural drawing, courses in applied arts, comprising design, decoration, and woodcarving; and evening classes which, with shorter curricula, offered instruction in roughly parallel fields. By 1894-1895 when the Department was reconstructed as the Department of Fine and Applied Arts, its functional divisions had become more clearly defined. Under Applied Arts came Architecture extended to two years, and Design and Decoration, a curriculum of three years. In 1894, too, Howard Pyle began a course of Saturday afternoon lectures out of which grew the School of Illustration. Before proceeding to the most distinguished years of Fine Arts, 1894-1900, it is well to define the scope of art instruction at the Institute.

The Art Department began its enrolment in March of 1892 with 380 students. Director of the department at this time was Mrs. Hannah Carter, who announced not only elementary art training, but also a normal course so characteristic of all charter departments of the Institute. The department began and continued throughout its history with a distinguished faculty. Early members were Clifford P. Grayson, instructor in oil painting and by 1893 Director of the Department; William S. Robinson, water

color; James Wood, drawing from the antique; Charles Grafty, clay modelling and sculpture; John L. Maene, wood carving; and Mary C. Ware, design and decoration.

Courses of study provided for two lines of work, regular classes of five days a week; and evening classes from the middle of October to the end of March, three sessions a week in two-hour periods. General lectures were given on the history of art and on the principles of art and historical ornament. Students had the option of attending courses on the chemistry of color and of textiles and dyeing in the Scientific Department.

Fine Arts

The regular art curriculum of four years included design, still life, and light and shade in the first year; anatomical casts, sketching from the figure in oil or water color, pen and ink rendering, and clay modelling in the second and third; and in the fourth, water color, still and life, oil painting, and sketching and composition, with an optional course in clay modelling. This appears to have been a diploma course. A second division of the department (Normal Art), training students for positions as teachers and supervisors of art and drawing in public and private schools, awarded two-year certificates, but had been dropped by 1894.

Architectural Drawing and Architecture

The third division, which in 1892 specialized in mechanical and architectural drawing, had as its purpose to fit the student for practical work in the draughting room of the engineer and the architect respectively. It should be noted that at this time the professional architectural school had not come into its own, the best training for architecture being skill in drawing, and office apprenticeship.

Mechanical drawing, changing little as it comes straight down to the present, requires no description. Given in the School of Engineering today, the course is no longer terminal.

Architectural drawing comprised freehand drawing, drawing from the antique, the architectural orders and styles, decorative details, plans and elevations of buildings, specifications and contracts, heating, ventilation, plumbing, and drainage. As early as 1894, an expanded two-year program of architectural studies

emerged, and in 1895 a preparatory course of the same length for "young students." To these in 1898 was added a one-year graduate course. In the fall of 1905, the Art Department having been dissolved, Architecture became independent, and in 1909 extended its regular course to three years. In 1914 Architecture was dropped from the curricula of the Day School. Such, briefly, is the history of a department which for over two decades held a useful and distinguished place in Drexel education.

From 1894 to 1914 the director of Architecture was Arthur Truscott, a modest and kindly gentleman, an able and sensitive designer. Among his associates, for long or short periods, were J. J. Dull, H. S. Richards, Emil Lorch, and D. D. Ellington. Much could be written about these and other members of the architectural staff. Briefly, Dull was a noted water-colorist with a gift for bringing out talent in others. At Drexel he developed a number of distinguished renderers. Richards, chiefly associated with the Evening School, was highly regarded for the excellence of his courses in building construction. Lorch, though only briefly at the Institute, established a reputation for originality and brilliance in teaching. Ellington, a Drexel graduate, later a student at the University of Pennsylvania and the École des Beaux-Arts, was the first American to win the Rougevin prize.

Trained by Arthur Truscott and his associates, many young men left the Institute for advanced study or professional work. Numerous Drexel graduates are today enrolled in the American Institute of Architects, of which E. Donald Robb, '99, Willard C. Northup, '02, and Rudolph Weaver, '05, are Fellows. Other representative graduates, whose accomplishments are of record and require no rehearsal here, are Arthur T. Sutcliffe, '97, Clarence W. Brazer, '99, Edward P. Simon, '00, Irwin T. Catherine, '03, Russell F. Whitehead, '03, Clement S. Kirby, '07, and Juan M. Arellano, '11.

Applied Arts

Applied Arts, with a curriculum of three years, was a fourth division. The course in Applied Design, for the training of professional designers, dealt with decorative design and the technical methods of its utilization. In a general way instruction roughly paralleled that of the first three years of the regular art course,

with special training in the application of art to the production of original design for oilcloth, wallpapers, carpets, woodwork, metalwork, tile, bookcovers, and the like. Other sections of this division of Applied Arts offered three-year courses in classical decorative design, wood-carving, and stained glass. Requirement for admission was a good education equal to the usual grammar school, and some knowledge of free-hand drawing.

The School of Illustration: 1894-1905

By 1893-1894 Clifford P. Grayson had become director of the Art Department, which gradually enlarged its faculty to include, among others, John J. Dull and Arthur Truscott, who later became director of the Department of Architecture. In 1894, a special class in illustration was announced. For this innovation Director Grayson was responsible. He urged upon Dr. MacAlister the utility of a course in illustration and suggested that Howard Pyle be invited to conduct it. From the first, illustration presupposed advanced training, and consequently drew talented students to study under a man even then nationally known.

The following passage, by Grayson, quoted from a letter dated April 9, 1940, and addressed to Professor C. L. Altmaier, shows clearly why illustration was added to the art curriculum:

In my diary of 1894, I find that on April 30 I submitted with some trepidation, my suggestion to Dr. MacAlister that the Institute should have a class in Illustration. He was rather dubious at first, but I told him that our present Art Department was only teaching what was already being admirably done at the Academy of Fine Arts, and many other schools throughout the country, and that the majority of their pupils, after leaving the schools, were only fitted to make Exhibition pictures that no matter how good were simply unsaleable. The truth of this was evidenced by the fact that of the hundreds of exhibits at the annual shows of the Pennsylvania Academy or the New York National Academy, the number of sales was almost nil whereas there was a great demand for able illustrators.

When Dr. MacAlister asked if I could suggest anyone . . . I told him we had one of the ablest illustrators of the country practically right in Philadelphia. Howard Pyle, living in Wilmington, would probably be interested in such a class.

The Doctor grasped the idea at once. The result was that . . . Pyle came by appointment to the Institute, and after a talk with Dr. Mac-

Alister and me, decided to take charge of a class in Illustration at the Institute.

Courses began in October, 1894, meeting Saturday afternoons to enable persons occupied the rest of the week to attend. An examination in drawing was required. According to Mr. Grayson, among those present at the opening were "Maxfield Parrish, Elizabeth Shippen Green, and Jessie Willcox Smith, who were already successful illustrators, so that Mr. Pyle had good material to work with." It is interesting to note that within the same year, Nicola D'Ascenzo, since famous as a creator of stained glass, undertook the evening course in design and decorative art. With a faculty distinguished already or destined to distinction, and with a student body of high talent attracted by the reputation of these men, it is little wonder that during the later nineties Drexel became the center of what for its time was the representative best in American art. It is a tribute, too, to the enthusiasm of the leaders of the school that they continued so long to teach in spite of greater material opportunities. A happy conjunction of time, talent, and circumstance made Fine Arts at Drexel, against all local competition, unique. Yet even from the beginning of the School of Illustration is discernible a trend, characteristic of the Institute, toward application rather than mere self-expression. Applicability to life was the basis of Pyle's philosophy of art and philosophy of teaching.

Pyle's credo and the record of his teaching experience at Drexel appear in the subjoined extracts from his correspondence as edited by Charles Abbott, and entitled *From Howard Pyle, a Chronicle*:

. . . My class was formed more for the purpose of encouraging imaginative drawing in the more advanced students, and to teach a pupil how not to copy the life model until the pupil knows how to copy it. . . . It is too often thought that illustrative art requires less practice than painting in colors. The fact is that it requires a great deal more knowledge and much more freedom of technique; for I observe that our painters who come from abroad are very often unable to illustrate, while the Illustrator (if he chooses to do so) may paint successful pictures. . . .

At every point one finds evidence of Pyle's belief in imagina-

tion as a prime requisite of the creative artist, and technical perfection an essential but secondary thing:

I think first of all that they should be taught in the very beginning to believe that all they are learning of technique is only a dead husk in which must be enclosed the divine life of creative impulse. I think they should be stimulated to think things out of doors—to talk of living things and to draw them, describing them maybe in words as well as in pictures.

Pyle's insistence was upon practical approach and practical results, but not upon material motives. His views were not orthodox, and certainly not academic. His feeling was that the student learned more in painting with a view to please the general public than he could by acquiring the technical tricks certain to win the approval of the academic critic. He states this clearly in a letter to Clyde DeLand, written while he was at Drexel:

You will learn more in one week of actual work to be reproduced in public print, than you can learn in two months of school study, for in actual work there is none of the fancied excellencies which govern consideration of school work. There is a sort of academic trick in drawing from life that appeals to the teacher and pupils, and from observation in life I find that students are very often given great credit for school work without having in the least a shade of artistic ability. When you are making pictures to be reproduced in print you are then given no favor and your pictures must be good as pictures or else they are of no possible use. . . .

Believing that true American art scarcely existed in his time, Pyle held that training in illustration might more readily produce a native art than the traditional academic method then in vogue here and abroad. Once he wrote: "I think that the young artist is overshadowed by the technical accumulation of foreign education, which, excellent as it is, does not lend itself to the fulfillment of a characteristic American art. . . . I rather think it tends to subordinating originality and imagination to technical methods of painting." Adding in a later note that he did not belittle accurate technical training, he said: "I insist upon that in my school even more strenuously than it is insisted upon in the great art schools of this country, but I subordinate technical training entirely to the training of the imagination. . . ."

No record of Howard Pyle would be complete without inclusion of the letter to a discouraged student, moving in its sincerity and human sympathy:

I do not recognize, as you do, that you failed in your first attempt in my class. If you had done so I do not see that it would have been of any matter, for you are beginning upon something so entirely new and foreign to all methods of teaching that it is not possible but that we shall both meet with failures in the beginning, I in imparting knowledge and you in receiving it.

I cannot tell you how weighted down with the responsibility of you all I was after the morning's class. It was not that I was discouraged with your work at all, but that in seeing the futile attempts with which some of you began I realized how much the responsibility of your success or failure weighed upon myself. I felt your discouragement as keenly as though it had been my own, but you must have courage to learn and to persist in your endeavor or else the burden of your discouragement will lay upon me also.

In such moments of discouragement as I felt yesterday, I always feel within myself that after all we are only here to learn in this life that which we shall carry forward into the life to come. In that life the flower of perfection will not spring from the things in which we have succeeded, but from the things in which we have failed. Were this life all that we had to live, such disappointments would be terrible indeed, but as it is not the only life we have to live they are only the seed implanted for the rich fulfillment. All this I would have liked to have said to you instead of writing it, and I want you to have the courage to go on with your work which is so much more beautiful and worthy than you think it is. . . .

The spirit of this letter is the spirit of all great teaching. It leaves no room for wonder that the personal influence of Howard Pyle is a cherished part of Drexel's long tradition.

Such was the interpretation of art training that Pyle and his associates brought to the Institute in 1894. As Grayson had pointed out to MacAlister, the arts curriculum at the Institute was being duplicated by other centers of art instruction in the city. The School of Illustration, so retitled in 1896, removed Drexel from the competitive field by bringing a new approach to fine arts teaching—fine arts, yes, but planned not according to the limited canons of the salon, but for the more rough and ready judgment of the public at large. By 1897, the School of

Illustration, comprising in its several divisions of instruction the same distinguished faculty, dominated the school of which it had begun as a part.

Mr. Louis R. Dougherty, a student at Drexel from 1893 to 1898, describes the growth of the School as follows: "Mr. Pyle's class at first was a lecture on Saturday. Among the students were Maxfield Parrish, Violet Oakley and her sister, Charles Stephens, C. O. DeLand, Stanley Arthurs, Frank E. Schoonover, and many others who are now prominent illustrators. After a year of Saturday lectures, Mr. Pyle decided to have classes every day and give personal criticism on subject paintings and the illustration of books. . . ." He adds that the Drexel Art Department by 1898 had grown to national distinction, not only in illustration but in life classes and portrait classes under Mr. Grayson and the splendid work of Mr. Gaffy in sculpture. Not only did the students of the classes in illustration successfully submit illustrations to the leading periodicals of the day, but from time to time exhibitions were held in the Great Court of the Institute which attracted a great deal of attention in local art circles.

In 1898, Howard Pyle made two proposals to the authorities of the Institute. The first, about which nothing effective was done, was a suggestion that inasmuch as no museum in the country had made any systematic effort to build a wardrobe of costume, the Institute undertake this project. His second proposal for a summer school for highly talented students at Chadd's Ford drew favorable action from MacAlister and the Board of Trustees. For the summer sessions of 1898 and 1899 Pyle volunteered his services; both sessions bore successful fruit. To quote in part from an account in the *Public Ledger* for October 19, 1898:

The Art Department of the Drexel Institute has had a summer school on the Brandywine, near Chadd's Ford, under the direction of Howard Pyle, Director of the School of Illustration. Its object was to surround the pupil with rural scenery, and thus stimulate those aspirations for truth and beauty which are less likely to be evoked in the schoolroom. The prizes awarded were ten scholarships in the School of Illustration, which provide not only free tuition, but money enough to board the student through a ten-weeks' session.

Amid the hills, woods, and streams, the class of 15 pupils worked for ten weeks, sketching landscapes, painting from the draped model,

and working at compositions in black and white, or in colors intended for use in books or periodicals. . . . Four sets of these pictures, by as many different young artists, are designed for book illustration, and are soon to be used by two prominent publishers. If the text is as sprightly as the illustrations, the book will surely sell.

The session of 1899 was equally successful, but the summer school was discontinued upon the resignation, in 1900, of its director, whose commissions made heavy inroads upon his time. An added motive, given in Pyle's letter of resignation to Dr. MacAlister, lay in his feeling that the small percentage of talented students in his large classes, and the time devoted to them, created some sense of favoritism among students less gifted. Realizing that the Institute could not limit itself to the number of students capable of meeting his standards, he retired to conduct his own school in Wilmington. His enthusiasm for teaching never waned; and almost to the end of his life he kept about him a small and close coterie of disciples. Notable among his students both at Drexel and at his Wilmington studio were Maxfield Parrish, Elizabeth Shippen Green, Jessie Willcox Smith, Violet Oakley, Elizabeth F. Bonsall, Bertha Corson Day, J. Chambers, Clyde O. DeLand, and Frank E. Schoonover. Of Schoonover the legend runs that he received his first compensation while at the Institute for drawing a cow illustrative of meat cuts. His cartographical idyl hung for several years in the kitchen of Drexel's Department of Domestic Economy.

By the turn of the century, the brilliant galaxy of the Fine Arts staff had already begun to break up. In 1899 Charles Grafty had resigned from the Institute. Shortly after this, Director Grayson declared his intention to resign and go abroad, though he did not actually leave the Institute until 1905. Still other factors were operating toward the disintegration of this vital and colorful school. The Academy of Fine Arts in 1900 offered a number of very remunerative scholarships in art, a form of competition which somewhat demoralized the Drexel student body. Beginning in the late nineties, this situation made thorny the path of B. West Clinedinst, successor to Howard Pyle, and Director Grayson. Breaches of discipline occurred. Sketches appeared on the very walls of the Institute so hallowed to MacAlister, whose sympathy for art exceeded, perhaps, his understanding of artists.

Other considerations were those of budget and space, twin familiars in Drexel history. In December, 1904, Grayson formally tendered his resignation, which was reluctantly accepted by President MacAlister, effective as of June, 1905.

Alumni contemplate with sadness the passing of the original Art Department, of art students in the halls and in the Court and galleries with blue smocks and easels, disdaining consort with the general. Colorful, gay and free, the Art Department went its own proud way. Some hint of this appears in an episode involving the famous artist, Thomas Eakins, who taught briefly at Drexel in 1895. Having duly announced his intention to do so, Eakins introduced a nude male model at one of his lectures on anatomy at the Institute. The incident received mordant attention from the press, the *Philadelphia Item* defending the artist staunchly but vainly. Listed in Mr. Lloyd Goodrich's catalogue of Eakins' "pictures probably no longer in existence" is one of James MacAlister.

The Art Department was dissolved in 1905. Architecture, assuming departmental independence, continued for a decade the art tradition at the Institute. The formal close was announced in the following official statement to the Philadelphia newspapers in April, 1905:

The growth of the Institute from the first has been so rapid and continuous that it has been difficult to keep pace with the growing demand for larger accommodations. . . . During the past three years, the number of students enrolled has averaged over 3,000, and the necessity of providing for the normal growth of nearly all the departments has become a problem difficult to deal with. A large amount of space is occupied by the library, museum, and picture gallery, auditorium and lecture room, which are used in connection with the work of the Institute in providing for the free public lectures and concerts and the educational opportunities provided for the general public in other ways. All of these have become important features of the Institute and should not be curtailed in any way. The Trustees had, therefore, to face the alternative of limiting the admission of students to the largest and most important departments of the Institute, or of discontinuing some of the courses. After mature deliberation, it has been decided to discontinue the courses in the department of Fine and Applied Art, with the exception of the School of Architecture, which is one of the most successful and important in the Institute. This has

not been done without some reluctance, as the other courses had made a distinctive place for themselves in the education of the city. It seemed, however, that these courses might better be dispensed with than any of the others, inasmuch as Philadelphia is amply provided with special art schools of a high order.

The action will enable the Institute . . . to provide double the space for the School of Architecture, and much larger accommodations for the Department of Technology, including the courses in engineering, mechanic arts, machine construction, all of which are filled to their utmost capacity. It will also furnish increased facilities to the important and rapidly growing departments of Commerce and Finance, Domestic Science, and Domestic Arts. . . .

PUBLIC LECTURES AND ENTERTAINMENTS

1892-1914

The Department of Free Public Lectures and Entertainments, and the Department of Evening Classes in Choral Music stemmed from the charter Department of Lectures and Evening Classes in 1896 and 1903 respectively. In 1914, the division of Free Public Lectures and Concerts was discontinued, though lectures open to the public, if not advertised as such in the early days, have continued under divers sponsorships to the present time. Choral Music as a functional unit of Evening School instruction, leading to the Drexel Chorus for public entertainment, dissolved in 1908.

Lectures and Concerts, Choral Music, and the Museum served a charter intention of the Founder, to extend equally to public and to student body cultural opportunities under Institute sponsorship. Necessity dictated their discontinuance. Just so circumstances had dictated the discontinuance of the Art Department. With powerful impulses toward specialization in business and industry which marked the first decade of the century, the demands of standard academic curricula and growing student body enforced the curtailment of general services offered during the growing years of the Institute. The Founder's first object had been to afford technical training to young men and young women for useful vocational and professional lives.

Facilities for general culture, though equal in the Founder's intention, were of necessity secondary in importance. It must be said, however, that none of the general cultural services offered

at the Institute were discontinued until equal or superior facilities had come into being elsewhere. It should be noted also that the art, music, and lectures were never separately offered to the public as a thing distinct from the facilities offered to the students. The Institute was no combination of school and Chautauqua. Entertainment was open to both, and drew proportional response from student body and public. Such entertainment supplemented the strict vocational training divisions of school instruction.

The Department of Free Public Lectures and Entertainments offered, as the title suggests, two services to the public. The first supplied courses of lectures on art, science, and technology by men of high reputation in their several fields. A fund had been established in 1894 to support and maintain both lectures and concerts. The stipulations made to lecturers who came to the Institute were that their lectures be advertised only by Institute circulars and announcements in the Philadelphia papers, and that they agree not to give lectures in the city of Philadelphia concurrent with those at the Institute. In number, the courses of lectures averaged 15 annually, the total number of lectures 34, or one weekly. Concerts, usually including a soloist, were offered fortnightly with an annual total of 16 or 17. Attendance at public lectures and concerts between the years 1894 and 1909 averaged 35,000 annually, sufficient evidence of the response of general public and student body, and of Drexel's one-time place in the cultural life of Philadelphia.

As Director of Evening Classes, William Bailie was charged with the direction of public lectures and entertainments. Concerts were given by distinguished musical talent both of the United States and of Europe. MacAlister, writing to Mr. George C. Thomas, a member of the Board of Trustees, in a letter dated November 19, 1900, says of them:

I have not had opportunity to tell you how well the lectures and concerts have opened this season. . . . The audiences have never before been so large or so appreciative. . . . The first concert came on a cold, rainy, uncomfortable night, but the auditorium was almost filled. The recital was by Mr. Thunder [Henry Gordon Thunder] who gave a most brilliant and successful program.

There can be no doubt that these lectures and concerts have become firmly fixed in the minds and affections of the people of Philadelphia. In their way, they are one of the best pieces of work we have ever undertaken. . . . I do not know that I have ever told you that Mr. Drexel was present at the first public concert given at the Institute, and I never saw him more pleased. . . . I cannot but think that we are carrying out his purpose in educating the general public in the way accomplished by these free lectures and concerts.

Lectures and concerts were public without restriction. Except on a very few special occasions, no seats were reserved; the practice of reserving seats was discontinued in 1900. Exceptions were the Christmas and Easter concerts, at which a dozen seats were reserved for the Board of Trustees until five minutes to eight, after which they were opened to the public. Drexel pioneered in the offering of free public lectures in Philadelphia; MacAlister, in a letter dated March 13, 1901, writes: ". . . Free lectures have occasionally been given, but the permanent organization of a free lecture and concert system, with an endowment sufficient to maintain it, was first established by the Drexel Institute in 1894."

Attendance at both public lectures and musical entertainments continued large, though after 1905 it diminished somewhat, owing, no doubt, to the growth of lecture bureaus and of other facilities in Philadelphia for musical entertainment. Yet as late as 1908 attendance during the winter averaged 25,000.

From 1905 the enlargement of the Institute's scope in education had put a progressively heavier burden upon the budget. To meet added expenses student fees had been raised. The inadequacy of the lecture fund established in 1894 was a powerful additional factor in curtailing and ultimately ending systematic programs for the public. The final blow to this Department came in 1914, upon the general consolidation of the early departments of the Institute, with the absolute accent upon its instructional function, and with the reorganization of day curricula upon a professional basis by President Godfrey. In this year the Department of Lectures and Concerts was one of the many to be discontinued.

CHORAL MUSIC

1892-1908

The Department of Lectures and Evening Classes opened formally in October, 1892. In MacAlister's first announcement the formation of a class in choral music was noted. Early appointments at the Institute were those of Charles M. Schmitz and James M. Dickinson: Schmitz to organize and train the choral classes, Dickinson to give recitals and assist in choral work. But even before the Institute's musical program had taken form, Colonel C. O. Bosbyshell, president of the Philadelphia Chorus, made a proposal which shaped the future of choral music at Drexel.

In a letter dated July 25, 1892, addressed to George C. Thomas, member of the Board of Trustees, Colonel Bosbyshell suggested that the Institute provide gratis a place for weekly rehearsals and assume the management of the performances of the Chorus in the Auditorium. "Our society by its dues could pay its leader and accompanist, your expenses being the cost of advertising the concert and salaries of soloists," wrote Bosbyshell, adding that such an arrangement would be in line with the Institute's purposes and preserve the Chorus to Philadelphia. Thomas, after consulting with MacAlister, the Founder, and Childs, expressed willingness to accept the proposal for 1892-1893, and, if satisfactory, permanently.

The Philadelphia Chorus appears to have lasted only long enough to complete its agreement with the Institute. In 1893, it dissolved; to continue its work the Drexel Chorus was immediately formed. Beginning and advanced classes in choral music were organized and directed by Dickinson and Schmitz. Graduates from the advanced groups were eligible for the Drexel Chorus.

Extremely popular from the beginning, choral music was departmentalized in 1897 as Free Evening Classes in Choral Music, and retitled in 1903 the Department of Evening Classes in Choral Music. Though formally independent, choral music throughout its history at the Institute was closely allied with public entertainment. The Chorus itself sang at Drexel ceremonies, as did soloists

trained in choral classes. The purpose of the Chorus is announced in the *Public Ledger*, November 6, 1893:

The Philadelphia Chorus having dissolved, the Board of Managers of the Drexel Institute have decided to form a musical organization to be known as the Drexel Chorus. The object of this chorus will be the cultivation of classical choral music, with a view to affording vocal training of the best character and the giving of concerts from time to time in the auditorium of the Institute. . . . There are two choral classes now in operation at the Institute, containing 550 members, and they are to serve as training schools for the Drexel Chorus, which will be recruited from the best singers in the city.

The flush years of choral music at Drexel were 1897-1905. Annual attendance at concerts during this period averaged 20,000. At first, a registration fee of two dollars was charged against members of the Chorus, but after 1897 both Chorus and classes were free, and expenses were carried by the Institute. For years Drexel sponsored choral instruction. By 1906, however, choral music had been widely developed in the city by other choral societies and classes. On May 20, 1908, the faculty Committee on Music and Public Lectures outlined the situation to Dr. MacAlister, with the recommendation that in the light of decreasing attendance, choral music, as distinct from public concerts, be abolished. On May 23 action was taken by the Trustees upon this recommendation, and the Department of Evening Classes in Choral Music was dissolved.

But the choral tradition, though no longer officially sponsored, has persisted at the Institute. It lives today, in the activities of student musical groups and in the recurring and welcome presence in the auditorium of the Choral Society of Philadelphia.

THE MUSEUM

Describing the Museum, President MacAlister writes in the *Circular* of 1891:

The collections of the Museum will be chiefly technical in character, and besides examples of the best art-industrial work will embrace the materials and processes involved in their production. The growth of the Museum must . . . be a matter of time, but . . . Mr. Drexel has presented the Museum with many fine examples of work in metal, ceramics, wood, embroideries and textiles, recently purchased in

Europe. These will be of great value in connection with the work to be done in the Art and Technical Departments of the Institute. . . .

In addition to the Founder's gifts, valuable accessions were received from George W. Childs, the family of the late Lieutenant Allan G. Paul, U. S. N., and from Dr. Edward H. Williams. Later accessions were acquired by gifts from Trustees and their families, members of the Advisory Board of Women, and many other friends of the Institute.

James MacAlister himself had begun the Museum with a sum of money given him by the Founder to be used in the course of a European trip in the fall of 1891. With the advice of the Keeper of the India Museum, C. Purdon Clarke, and the late Sir Philip Cunliffe Owen, director of South Kensington Museum, he brought back with him printed cottons from India and other objects of art. Further accessions of this date were oriental scarves, Indian pottery, textiles, metalwork, and reproductions of period furniture. In addition, the collection included a number of pictures and portraits, which came to the Institute by the will of the Founder. The Museum continued to be augmented by gifts from donors too numerous to mention until the year 1913, the main collection comprising selections of textiles, ivories, and ceramics, examples of expert woodcarving, and metalwork. Its most notable features were the Rittenhouse clock, the gift of Mrs. George W. Childs in 1896, and a collection of Egyptian antiquities, including six mummies, given by Colonel Anthony J. Drexel. Colonel Drexel further enriched the Museum with eight Tanagra statuettes. These and many other accessions by gift or loan established the Drexel Museum as one of the most notable in the city.

In the early years the Museum and the art collection, housed together in the east wing of the original Institute building, extended from what is now the corridor to Randell Hall to the windows facing Chestnut Street, space which today is occupied by administrative offices, a conference room, and a gallery for small exhibitions. In the first decade of the Institute there was, of course, neither a Randell Hall nor any office in the east wing except that of the president.

MacAlister's reference to the value of the Museum to the Art and Technical Departments shows that from the first the Museum,

like every other division of the Institute, was designed to supplement the educational program. That the Museum was functional to teaching is further indicated by its constitution as a "department." This term, though loosely employed in Drexel's early days, connoted a direct relationship to instruction. Like music and public lectures, the Museum was open to the general public and was a popular place of resort for the many who came to view the special exhibits of Institute work.

THE PICTURE GALLERY

After the death of Anthony J. Drexel, and of his brother-in-law, John D. Lankenau, a large collection of paintings owned by Lankenau was bequeathed, in conformity with an agreement with the Founder, to the Institute. According to the agreement, the paintings were to be placed in a suitable room under the title of the John D. Lankenau Collection. Since at that time even the original collections overtaxed available space for art and museum exhibits, no suitable room for the newly acquired pictures could at first be found. In 1902, upon the completion of East (now Randell) Hall, a large gallery on the third floor of the new building became available, and in it were hung the Lankenau collection and other pictures from the Museum. The Picture Gallery, a static exhibit, never became a department. Miss Mary T. MacAlister, daughter of President MacAlister, served as curator for many years.

Beyond the enrolment of new accessions little change occurred in the Museum and Picture Gallery between 1902 and 1914. In 1915, President Godfrey placed before the Board of Trustees a plan for disposing of a portion of the Museum, as well as some valuable library property. After Dr. Godfrey's report of November 18, 1915, the dispersal of the Museum, except for those accessions most closely associated with the Institute and Philadelphia, began. A considerable part of the original collection was retained, and is today on display in the east wing gallery and in the corridors and balconies of the Main Building.

In his address entitled "Student and Faculty Activities in a City Technical School," Dr. Godfrey justified his disposition of the Museum as part of a plan to restore the original active func-

tion of this and other divisions and relate them in a dynamic way to the active life of the Institute:

The equipment of the Institute as regards art is divided into three: first, a gallery of modern paintings; then collections of textiles, ivories, and ceramics grouped under the general title of the museum; and the organized collections of prints and photographs, and of casts reproducing various masterpieces of culture.

At the time of the beginning of the study . . . slight effort . . . was made to make these collections in any way dynamic. The picture gallery and museum were merely places through which an occasional student wandered. Selections remained in unopened portfolios and the casts were merely a part of the corridors. The first step in the study undertaken was an investigation into the methods of the most effective art museums in bringing art to the people, and then calling to the Institute . . . experts to tell us not only the value of what we had, but also something of the way in which these treasures could best be put on view.

From this it may, perhaps, be inferred that in disposing of a part of the Museum Dr. Godfrey acted upon expert advice. The immediate result of this survey was to create out of the picture gallery a Women's Union by the introduction of comfortable furniture, a piano, and a phonograph. Thus the dual purpose of bringing the students in contact with the art treasures of the Institute and providing a meeting place for social contacts was served. According to Dr. Godfrey's report, the average attendance, for the ninety days preceding and the ninety days following the change, rose from two to 182. In the same way, one of the two rooms in which the Museum was then housed was made into a general reception room for the Institute.

Though for many years the Museum underwent continuous rearrangement and contraction, the Picture Gallery has remained substantially unchanged. In the gallery, under the custody of the Library, is housed the major portion of the magnificent collection of manuscripts and autographed letters bequeathed to the Institute by George W. Childs. The manuscripts of Charles Dickens' *Our Mutual Friend* and Edgar Allan Poe's *Murders in the Rue Morgue* highlight a collection which comprises manuscripts of Coleridge, Cooper, Hawthorne, Lamb, Thackeray, and many other literary and historical celebrities. Recent accessions to the Mu-

seum and the Picture Gallery include a gift of a Napoleonic mirror from Mrs. Lawrence T. Paul; a portrait of James W. Paul, Jr. from Mr. A. J. Drexel Paul; a painting from Dr. Nelson M. Chitterling; and a portrait of the Founder from Mrs. Jacques Allez. Here, too, may be acknowledged Mr. A. J. Drexel Paul's gift to the Institute of a notable collection of engravings by Hogarth.

The Advisory Art Committee

In a comprehensive survey entitled "A Study of Drexel Institute," in 1932, President Kolbe, commenting upon the Museum and the Picture Gallery, observes: "they are both obviously so overcrowded as to be seriously handicapped for practical use." Soon thereafter he urged upon the Board of Trustees the necessity of having the Institute collections more thoroughly catalogued and more effectively displayed. Looking toward the achievement of these and other ends, Trustee E. P. Simon in 1933-1934 organized the Advisory Art Committee, composed of himself, Mr. Samuel Yellin, Mr. Nicola D'Ascenzo, Mr. Walker Hancock, Miss Dorothy Grafty, and President Kolbe, ex officio. In February, 1934, Miss Grafty, whose distinguished father had taught in the Art Department, was appointed curator of the art and museum collections.

For a year after assuming the curatorship, Miss Grafty, together with Mr. Simon, studied the problems of the Picture Gallery and Museum. In the fall and winter of 1935 a complete rearrangement and simplification of the Gallery was so carried out as to make possible an impressive formal exhibition of art and museum pieces on January 3, 1936. The modernization of the Gallery released many paintings for display in the Sarah Drexel Van Rensselaer Dormitory, in the Men's Faculty Club, and more recently, of course, in the Student Building. The Advisory Art Committee's policy of "circulating" pictures is in accord with the best current practice. The Picture Gallery—now supplanted as the Women's Union by the Ryder Club and the Women's Lounge—preserves its status as a place of general resort. Students gather there for study; there receptions, special lectures, and meetings of many kinds are held.

In the Museum the Art Committee similarly worked to overcome crowding and to release badly needed space. Many cases

were removed from the Museum itself to the galleries of the Main Building. These new exhibits were planned to combine attractiveness with utility. So far as possible, collections were placed close to the departments most likely to find them of value. What used to be the Museum wing is now administrative office space, but a gallery to the right of the Court as one enters is reserved for the display of portions of the permanent collection, student work, and special loan exhibits. In addition to her work with the Picture Gallery and the Museum, Miss Grafly, assisted by the members of the Advisory Art Committee, has carried on the art tradition of the Institute by means of lectures open to students, alumni, and the public.

YESTERDAY AND TODAY

To the serious student of Drexel history no feature of the Institute's continuous growth through five decades is more striking than the tenacity with which its charter traditions have endured. In an institution so complex and so active it is no easy task to follow the interwoven threads of all component services down the years. Far easier to say impulsively, "That belongs to the old Drexel, this to the new." There has been more than a little such saying.

Viewed historically, there is no old Drexel, and no new. The Institute has grown progressively to fill the successive needs of successive decades. The services discussed in the present chapter have enriched the present with enduring traditions. Time has altered the form but not the substance of these services. To those who think of an Institute that is of the past as distinguished from an Institute that is of the present, the course of Drexel's history offers a sufficient rejoinder. Men and administrations sometimes forget, as the Institute does not, the constructive ideas rooted in Drexel's past; but these lie dormant until present needs, similar perhaps to those they once served, recall them into service.

It must always be remembered that the Institute's declared intention was to prepare young men and young women for specialized vocational careers. Considerations of general culture involved no dualism in Drexel's function. The early book selections for the Library were not of general nature; they were closely related to the fine and useful arts, supplying essential classical

background for creative design in the arts, the crafts, and in technological subjects. The best fruits of Fine Arts sprang from its contingent schools of Architecture and Illustration. Students, even while attending classes at the Institute, accepted commissions for the illustration of books and magazines. Lectures and concerts were not only cultural in the aesthetic sense; they were solidly educational as well. Dr. MacAlister's concept of the Museum as an aid to instruction in the applied arts has already been cited.

Culture, as Chauncey Depew pointed out in the dedicatory address, is not a thing divorced from everyday living. It is rather a feeling for grace in design, both of tangibles and intangibles—conspicuous among the last, design in living. If culture be defined thus, Drexel's early accent on appreciation of music and study of the best in fine and applied arts is present at the Institute today. The crowds that filled the Auditorium seldom assemble now; the art treasures have been dispersed through the galleries and corridors of the Institute buildings; leisured gatherings to view exhibits of paintings and of sculpture are seldom seen. But insistence upon the study of the finest precedents the past can offer as a guide to beauty of design, whether for textile or machine, and as an inspiration to pride in work, endures as an ever powerful force.

A vital tradition is seldom stated in words; instead it is taken for granted. The precedents stressed and the traditions established by the many distinguished voices heard in the Auditorium, by the selfless work of Dickinson and Schmitz in music, of Grafty, Grayson, and Pyle in art, of Truscott, Lorch, and Dull in architecture, are changeless, if intangible, influences in the work of Drexel Institute today.

CHAPTER EIGHT

BUSINESS ADMINISTRATION

THE record of the School of Business Administration, as its title is today, follows a direct line of development from the day of its opening enrolment in February, 1892, until the present time. There have been no divisions or mergers such as those which appear in the respective histories of Engineering and Home Economics. The nearest approach to a merger has been the fairly recent transfer of the four-year coöperative course, now five, in retail merchandising three years after its incorporation under the School of Home Economics in 1929. Since 1922 the growth of the School of Business Administration has been constant; its general trends have been gradual enrichment of the curricula, progressively closer liaison between itself and the business and industry which it serves, and untiring adaptation of instruction to current demands for trained administrative and junior-executive personnel.

CONSTITUENT DIVISIONS OF INSTRUCTION

Dr. MacAlister, in his *Preliminary Circular of Information*, describes the early constitution of the Business Department in the following words:

This department will provide thorough training in stenography, typewriting, bookkeeping, business forms and accounts, and correspondence. The course will also include practical training in the writing of English and familiar lectures on the trends and operations of manufacturers, commerce, finance, and law.

The aim of the course is to prepare young men and women for the higher forms of employment as clerks, bookkeepers, and secretaries. It may be completed in two terms [one year], but the progress made will depend very largely upon the previous general education of the student.

No student will be admitted to this department who has not had a good English education at least. Young men and women who have had the advantage of a secondary education will find this department

an excellent means of preparing themselves for what can be made with thorough training one of the most desirable occupations now open to them.

Such was the preliminary statement published by President MacAlister in 1891. Like other departments of the Institute, however, the Business Department did not enroll students until mid-winter. The department began work on March 7, 1892, with an enrolment of some sixty students, though its first formal term began September 12, 1892. Its first director was Francis H. Hemperley, succeeded in September by H. Walter Rathbun, who saw it through its organizational period, and resigned September, 1893. Seymour Eaton was then appointed director.

It may be of interest to note that the first courses, or curricula, if such they may be called, were the commercial courses for one year of two terms, a course of study designed primarily for men; and a course in stenography and typewriting, a one-year course for women. Teacher training in business has no mention in the original constitution of the Normal Department, and does not appear to have been added until the year 1893-1894. In 1892, Parke Schoch, instructor in business law, and in 1893, Carl Lewis Altmaier, instructor in typewriting, were added to the staff; these men in succession later became heads of business instruction at the Institute.

The motive that underlay the initial constitution of the Business Department was one of excellence. Dr. MacAlister, a man of long experience in secondary education, deplored the accent upon fees and fees alone in the many mediocre business training schools of Philadelphia. He opposed them, too, because they solicited students to suspend their regular education before reaching high school, a practice detrimental alike to students and schools.

MacAlister thought that Drexel Institute could supply the need for really adequate business training. One finds throughout his correspondence expressions of disdain for the short superficial courses of the more mercenary business schools. He knew that the Institute was in a position to give better instruction than such schools, and to give it for less money. Accordingly, for a tuition of some forty-five dollars annually, business courses were organized which gave sound training in pleasant surroundings in subjects that were really fundamental—shorthand, bookkeeping,

typewriting, and penmanship. These subjects formed the bases of business instruction during the first decade of the department's history. A note of the courses listed will suffice to show that it was comprehensive even by modern standards.

The curriculum of 1894 offered a general knowledge of double entry bookkeeping, industrial and commercial arithmetic, current business practice in banking, shipping, and billing of goods, promissory notes, commercial drafts, collections, work and pay rolls, mail and express business, and commercial law. To these were added business correspondence and lectures on civics and economics. Such were the courses of the Commercial Class, a class which appealed primarily to men.

Stenography and typewriting, or training in routine office practice, designed primarily for women, offered elementary, advanced, and speed courses, the latter offered for those who could take not less than a hundred words a minute in shorthand. Typewriting included the setting up of general commercial matter, letters, statistical work, statements of accounts, legal work, expert copying, and mimeographing.

The progress of the Business Department as outlined in a report given at the closing exercises of its first complete term on June 18, 1892, was as follows: Work began March 7, 1892, with seventy-six pupils, comprising four classes designated A, B, C, and D. The first two, A and B, were commercial courses, together with stenography and typewriting. The third, C, was limited to stenography, typewriting, English, and arithmetic. Class D studied commercial practice, but omitted stenography and typewriting.

It is well to quote what Miss May Haggenbotham, author of the report, writes about her subject, English; for it was out of the Commercial Course that English instruction at the Institute first stemmed—indeed, out of courses in business all language instruction stemmed—and it is of interest to discover that Spanish and French were not at first intended to prepare for work abroad, but as an introduction to general culture. Of English Miss Haggenbotham writes:

The English work has aimed to develop facility in the expression of thought, especially in the expression of thought in writing. To this end

there have been frequent exercises in correspondence and in the reproduction of talks and lectures and of the pupils' own reading. . . .

The good results of this study are apparent in every written exercise of the pupils, who find themselves continually impelled to new efforts by the conscious strength acquired by good reading and careful thinking.

The closing words of the report indicate the results of President MacAlister's provision for adequate instruction in pleasant surroundings:

It is pleasant to be able to speak in the highest terms of commendation of the cheerful and wholesome tone that pervades the department. The pupils manifest to a very marked degree their grateful appreciation of their beautiful surroundings and of the generous spirit that has provided them with the exceptional advantages they enjoy at the Drexel Institute.

Beginning Years

The *Public Ledger*, June 19, 1892, reporting the first commencement of the Business Department, "the most thoroughly organized" at the Institute, describes the arrival on the morning of June 18 of friends and guests in the Great Court, where they were met by the graduating class, most of whom were girls.

Clad in the chaste and airy garments affected on commencement days, they formed parallel lines, between which their friends passed to the steps leading to the auditorium. The young men acted as ushers, and, after the audience was seated, the class marched in and took the front seats.

The exercises were featured by an address by President MacAlister, the reading of Miss Haggenbotham's report by Professor Parke Schoch, and an organ recital by James Dickinson.

Speaking thoughtfully, as he always did, Dr. MacAlister pointed to the incomplete and unsatisfactory state of business education. Expressing the hope that the time would never come when any department of the Institute would be considered complete, he said:

We have much to learn in spite of our boasted educational facilities. With one or two exceptions, the commercial school is a private enterprise, which does not do the necessary work. . . . I want to impress in

your minds that a business school must be a training school in the broadest meaning of the term. I make a distinction between education and learning. The mere acquisition of facts is not education. It is the organization of your facts and knowledge, through the development of your powers of mind, that makes education. The supreme end of all education is not the mere acquisition of knowledge, but the development of character, the building up of all the powers of the mind and heart.

After the exercises the students conducted their guests through the building, where the usual exhibits were on display. In classrooms of the Business Department the fruits of commercial training were exhibited. Of these the *Public Ledger* writes appreciatively: "There were shorthand exercises, bills and accounts; also business letters, extracts from standard literary works and poems. The typewritten work was of an unusually fine character, showing the greatest care and accuracy."

Apparently as early as October, 1892, less than a month after the opening of the first formal year of the Business Department, field trips had been initiated for students of business, and reports were regularly written and read. Evidence of this appears in an article in the *Public Ledger* dated October 15, which reports that on the previous morning, the first "Friday morning" of the season was held in the advanced class of the Business Department, a class numbering a hundred women and twenty-five men. The plan was for members of the class to read papers on topics assigned in connection with previous visits to railroads, banking houses, and industrial establishments; the papers were to be discussed by the class, and explanations were to be made by men engaged in the business under review. On this occasion, papers were given on the making of a newspaper, after a visit to the *Ledger* Building. Future topics were to include American railways, banking, protection versus free trade, and the making of steel.

Graduating exercises for the first regular two-term year of the Business Department were held June 15, 1893. The graduating class was seated on the platform on either side of the organ, with center chairs for Dr. MacAlister, Colonel Charles H. Banes, speaker of the day, H. Walter Rathbun, director of the Department, Parke Schoch, and Carl Lewis Altmaier. Writes the *Ledger* of June 16, "The fair women of the graduating class were be-

comingly dressed in cool-looking gowns, and their fresh, young faces were aglow with the pleasurable excitement that always attends a graduating occasion."

Colonel Banes, a member of the Board of Managers, stressed the importance of business training for women. "Speaking especially for the graduates of the gentler sex, Colonel Banes dwelt upon the enlargement of women's sphere in the affairs of our life and the importance of women's influence upon the civilization of the world."

The awareness of women to broadening opportunities in business is suggested by the fact that from the opening of the Business School until 1922, enrolment of women far exceeded that of the men. Only with the fairly recent maturing of curricula in business administration and the initiation of the course in commerce and engineering has there been a trend toward balance in enrolment. In the beginning, however, substantial enrolment of men was evident, for it must be borne in mind that from 1890 until 1910 the three fundamental courses in business—accounting, shorthand, and typewriting—opened the way, through clerical apprenticeship, to executive position in business. Gradually after 1910 routine and administration became relatively distinct phases in commercial organization, thereby creating a cleavage between clerical and administrative personnel. Herein lies one reason for the present day curricular differentiation between the professional aspects of business administration and the field broadly classified under secretarial.

A week prior to its commencement in June, 1894, the Business Department initiated the first class day to be held at Drexel, a tradition which continued for a good many years as a ceremony distinct from the final exercises at which certificate or diploma would be granted. Class day was essentially a student function. After a short introduction by Seymour Eaton, the class president, Frederick Baugher, gave an address. This was followed by a reading of the class history, an essay by the class essayist on "Diligence," a class poem, a class prophecy, and presentation of "gifts" typifying "some conceit or fad the recipient was known or thought to possess." A class oration followed, on "Monuments of the Present." Music was supplied by Dickinson, by soloists, and by the

Banjo Club. Ceremonies closed with a supper and appropriate speeches by members of both faculty and student body.

This precedent, soon followed by all departments at the Institute, is significant as an index of a departmental solidarity carried to the point of exclusiveness. It casts an interesting light upon the intense departmental loyalties whose natural outgrowth was the organization of alumni groups by departments and by years. Such groups have only merged under a general alumni administration since Institute instruction has grown to extended curricula, and alumni have begun to think of Drexel as Alma Mater and of her departments and schools as constituent. It must always be recalled that Drexel, during its first two decades, was essentially a school which trained by single courses or by groups of related courses. Each of these was ably administered, each intensive; and such was the preoccupation of faculty and students alike in finding the highest degree of skill along specific vocational lines that there was little time or opportunity for the development or knowledge of what other departments were doing, or the relationship of each to each. Such integration came only with the growth of the Institute to professional status in the true sense. No department better illustrates this process of growth than the Business Department, for on no department did President MacAlister place greater emphasis and for none did he work more consistently toward professional status.

Non-competitive Status

Prior to the incorporation of Drexel's Business Department, the only school of acknowledged professional standing in the city was the Wharton School of Finance and Commerce of the University of Pennsylvania. But this school, which incidentally did not admit women, was for degree. The excellence of instruction at the Wharton School was freely conceded by President MacAlister, though he felt that much of its instruction was too advanced for many able students who clamored for opportunity in business. To supply a school at intermediate level, with accent upon business practice, and training at the highest level within that limitation, was his aim for Drexel. Nowhere does he more clearly state his full realization of the need of sound business education at a professional level for both women and men than in an address en-

titled "A Business Man's Education," and delivered before an educational congress for discussion of the subject at Chicago. After pointing out an almost total lack of provision for educating women in business affairs, he declares that it is possible for a girl or a boy to spend eight or nine years in the elementary school and leave it with little accurate knowledge of the real affairs of life as they relate to business:

And so the matter of professional education becomes of importance; and I take it . . . that this is the chief purpose of this Congress—the discussion of professional education. Now, I cannot say too much on that. It is one of the great needs of this country. With our enormous wealth and unrivalled resources, and our opportunities for business, and for each man rising in the business world, unequalled anywhere else or in any period of the world's history, yet less provision has been made for professional education than any other. In France and in Germany it is a matter of government duty. The government thinks it is just as much its duty to provide professional colleges in business as it does in technology, in art, and in science; and so you will find in Paris great magnificent schools in one of the finest social centers, and with the tricolor of the Republic over the great gables; that is the great college for training merchants of the highest order, just as the state trains lawyers, and physicians, and soldiers, and sailors, and scientists, and scholars. The course of study there is most elaborate. They think there, as we all think, that the business man should have a broad, general character. I don't know of any who needs it more than the business man does. There is no reason at all why a business man should not be an educated gentleman. . . .

One half of the millions spent in taxes in this country is wasted because of the manner in which education is administered. In high schools here and there they have a business course, but it is not a professional education. It serves a good purpose, and the more girls you can get to take it, the better, but it is not professional. This country does nothing for professional education in business, and so it has been left to private enterprises, and we owe a great debt of gratitude to the enterprising men who have devoted their lives to that work. . . . Today I believe we are suffering from the want of an adequate knowledge of the science of business in this country. . . .

MacAlister here speaks feelingly. In the light of this address one understands the repeated effort to include lectures in economics from the earliest days of the Business Department. In the

light of it one understands why out of the original department grew courses in English literature, public speaking, and modern languages, courses in French, in Spanish, and in German; indeed, with the exclusion of the fine and applied arts, those divisions of the Institute which today serve the broadest cultural function. MacAlister's words express, too, his long vision in looking toward the day when the Institute should be no longer a technical institute in the narrow sense of the word, but a school training broadly for the professions.

A concrete expression of his wish appeared in his survey of the Institute in 1905 with a view to reorganization for degree. Always he sponsored broader curricula for the School of Business; untiringly he urged higher standards and more advanced instruction for teacher training in commercial subjects. Though he viewed with wishful regard the possibility of training at professional level in all divisions of the Institute, he felt that the broadest need for such training lay in the field of business. He worked for that in the hope of eliminating through it the inadequate competitive schools of business training which enjoyed mushroom growth during these years of rapid commercial and industrial expansion.

A reference expressive of his view and of his admiration of the Founder occurs in the same address:

A large amount of the intellect and the real power of the country has gone into business. I have had personal relations with a great banker, and I don't know of any man who earned his money as hard as he did. I don't know any man who needs more intellectual power and resource, and who works harder and who has graver responsibilities, than the man who takes care of our money; and so I think we should gain enormously if we could make it a rule that the door to business as well as to the old and the new professions, should be through the professional business school.

With the resignation of Mr. Rathbun in September, 1893, in favor of Seymour Eaton, whose appointment took effect as of that date, the growth of the Business Department regularly begins. In broad terms, this development comes down the years in unbroken line and is marked by the progressive raising of entrance standards, emphasis upon equal opportunity for women, expanding curricula both in time and course content, reorganization into

closely integrated groups, and finally emergence, after 1917, as a school of professional standing for degree.

EARLY ADMINISTRATION

1893-1913

Seymour Eaton, under whose administration early business instruction matured, became a member of the Institute faculty as instructor in industrial and commercial arithmetic, bookkeeping, history and principles of commerce, and business printing and advertising. A man of experience in business, of talent in writing, and of diversified interests, he was well chosen—as most of MacAlister's organizers were well chosen—for defining the initial policies of the department he directed. The nature of his first organization, which remained substantially unaltered for fifteen years, showed the sensitiveness to current trends of the man who is a promoter at heart. Notable for breadth are the courses planned under his direction in the first year of his administration.

The Commercial Course comprised a first year of industrial arithmetic, penmanship, commercial geography, English, civics, bookkeeping, typewriting, business correspondence, business forms, rapid calculations, general reading, public speaking, and physical training. Second year instruction progressed to commercial arithmetic, economics, advanced English, history and principles of commerce, business law, business technique, advanced bookkeeping, American industries, commercial legislation, business printing and advertising, office practice, general reading, and advanced public speaking. Eaton created the Business Department's first two-year curriculum.

In addition to this, a course designed primarily for women, but open to men as well, offered one year of training in stenography and typewriting, and included English, business correspondence, civics, business forms, office practice, general reading, and physical training. Special courses, cultural in nature, were offered to students not desiring to take the full Commercial Course.

A normal course of two years included the entire work of the Commercial Course, intensively given, with the following additional subjects: lectures on the institutes and history of education, by Dr. MacAlister, school economy, and stenography. A feature

of the course was the strict admission requirement that applicants be at least twenty-one years old, and come to Drexel with at least two years' experience in teaching. Commercial teaching was one of the earliest of Drexel's courses having rigid entrance requirements.

By 1895 the curriculum stood fairly firm. As stated in that year, the aim of the Commercial Course was to prepare young men and women for business in its broadest sense. Its practical bent was expressly stated: "The course throughout is decidedly practical; graduates are estimated as much by their ability to do what they have never attempted as by what they know of that which they have been taught." The primary aim of the stenography and typewriting course was "to prepare young men and young women for employment as secretaries, amanuenses, and assistants in business offices. It offers also a finishing course of a practical character for young women who can spend another year at school, but who do not find any immediate need for actual office employment. . . . The additional advantages include thorough courses in English and civics, and large acquaintance with the routine and technicalities of business."

The statement is indicative of a very early trend toward the study of business as a science and as a technique. The announcement affirms an increasing demand for thoroughly trained commercial teachers, adding, "The purpose of the Normal Course is to offer teachers the advantages of a thorough commercial training under the most favorable conditions." Noted, also, is the value of public lectures and concerts as a supplement to the training of the commercial teacher.

By 1895 the distinction between what now are known as business administration and secretarial had become fairly clearly defined, and teacher training was offered with a care in selection and in training which has been consistent throughout the history of the School of Business. The normal work, and indeed the entire curriculum, of the School, particularly in its relation to commercial geography and production, was supplemented by the formation in 1895 of a permanent commercial museum. Admission requirements were stated for applicants to the regular commercial course, also; though these were flexible, as applicants were admitted to the first year at the age of sixteen, and to the

second at the age of seventeen. Regular students, therefore, were of a less mature age group than those of teacher training.

A high tribute was paid to Seymour Eaton in a review in the *Public Ledger* dated November 19, 1895. Eaton had shortly before produced his first book, *Banking Securities, Transportation, Insurance, and Foreign Trade*, published by Zeigler and Company. According to the article, Eaton had brought the Business Department up to a very high standard of excellence; his method of work with and for his large classes was shown in this book, which was designed as a text for schools and colleges. During the period of 1893 to 1897, Eaton was indefatigable in writing, sponsoring a series of syndicated educational releases, and producing numerous books. In 1897 his promotional activities so absorbed him that he resigned, in favor of Parke Schoch, to devote his energies to the promotion of popular culture through the Book Lovers' Library.

Parke Schoch

Parke Schoch, entering the department in 1892, and working more in harmony with MacAlister than Seymour Eaton had done, continued Eaton's organization with very little change. In 1899, the second year of his administration, he introduced the first foreign language, Spanish, into the Department of Commerce and Finance, so retitled to indicate its broadening scope. In accordance with MacAlister's long-felt wish, the plan of work was rearranged to parallel as closely as possible the schools of professional training for business of France and Germany. Its aim was redefined as that of training young men to do business rather than simply to record business.

Under Schoch, the two general courses became Commerce and Finance and the Commercial Normal course, the latter reduced to one year because of an urgent demand for commercial teachers. In addition to the two general courses, four separate office courses were offered, each of one year, and each planned to prepare young men and young women for immediate entry into specific lines of employment. The bookkeepers' course trained for accountancy, as the name implies; the stenography course, for shorthand and typing. The secretarial course trained young women for fields which today are known as administrative-secretarial; and

the civil service courses offered preparation at the level of federal examinations.

To the six curricula Schoch added a wide variety of special lecture courses on business subjects, in the afternoons for women, and in the evening for the general public. Thus, business instruction, organized by Seymour Eaton, and diversified and extended in scope by Parke Schoch, kept faith with the Founder's intention, offering equal training to women for diversified business opportunity. No department of the Institute has been more alert to meet developing needs.

Credit for another innovation must go to the Department of Commerce and Finance. As early as 1893, announcement of public speaking occurs; in 1897 one finds the following note: "Students are afforded opportunity each week for practice in public speaking. The value of this training to business men is unquestioned. The class results so far have been very satisfactory." In 1897, however, though civics was retained, lectures in economics by Professor Frederick W. Speirs were dropped. It appears clear enough from enrolment figures and necessary accent upon courses immediately related to business training that MacAlister's desire to carry such training into the theoretical field had for a time to be modified in the interest of utility and demand. This restraining trend continued throughout President MacAlister's administration, for in a letter dated January 12, 1900, to the Honorable William T. Harris, United States Commissioner of Education, he writes:

There is very little being done in Philadelphia in the higher kind of commercial education. In the University of Pennsylvania there is a course in finance and economy, but that is a general college course, with a modicum of attention to commercial subjects, such as physical and economic geography, theory and geography of commerce, economic history, transportation, etc. It is not a school of commerce in the German or French sense. The private commercial schools, so-called, are of the usual character—a delusion and a snare, the sole object being to make money. In the Drexel Institute, I have been trying very hard to establish a department of commercial education on the plan of the European schools. It has been the most difficult problem that I have attempted. Business men are not alive to the advantages of commercial training, and the standards for such a school are totally de-

moralized by the private enterprises in the form of "commercial colleges" which abound in every part of the country.

I send you herewith a circular of the course of instruction in our commercial department, which, to distinguish it from the other schools, is called the Department of Commerce and Finance. So far as it goes, I think it stands on a solid foundation, and we are doing very good work. The trouble is to get the right material. We have succeeded in making some impression on the public mind, and we are now getting better material in the form of young men. The work done in this department, as you will see, is chiefly of a secondary character. Some of it, however, reaches up into college work. Last year we added the Spanish language to the course, and in another year I hope to add German, and in time French. I propose to keep on improving this course, hoping eventually to build it up into a school worthy of the name. . . .

Again appears MacAlister's insistence upon the necessity of professional standards for business training. The importance he attached to commercial teaching appears in the rest of this document:

You know all about the movement, now become active and general, throughout the country, for the establishment of commercial high schools in the public school system. The trouble with this effort is the lack of properly trained teachers. You will see that we have in the Drexel Institute a so-called commercial course for teachers. I expect next year to put this course in better shape, and make an effort to secure the right kind of material, so far as possible, from men and women who have had some experience in teaching. We have turned out a few teachers who are doing well, but the demands made upon us are much in excess of our ability to meet them.

I am glad you are interesting yourself in this movement. It is one of great importance to the country.

He closes upon a note of restrained pride in the work of the Institute in forwarding the trend toward better preparation for business:

. . . I wish very much you could come here sometime and spend an hour or two, to get a proper idea of what we have been trying to do and what we have accomplished. There are some features of the Institute, I think, which differentiate it from other institutes of a similar character.

Teacher Training

President MacAlister's support of teacher training was untiring. Evidently the reputation of early teacher training at the Institute attracted attention, for in a letter to the *Penman's Art Journal* dated May 4, 1900, he writes:

In reply to yours of the 2nd inst., I send herewith the circular of the Department of Commerce and Finance. . . . I note what you say about the demand for commercial teachers. We have started this course because there are none to be found. We have constant applications from high schools which are organizing commercial courses, but the demand, of course, is for specially trained instructors. We have facilities for meeting this demand, and our object is to establish a thorough professional course of training for teachers of this kind.

The scope and organization of the School of Commerce and Finance in the year 1900 appears in a statement issued for publication in the *School Journal*, *Journal of Education*, and *Penman's Art Journal*, for May, June, July, and August. The announcement relates specifically to teacher training. The course included commercial geography, the history of commerce, commercial law, banking and finance, with the English and Spanish languages, broad foundation courses for the more practical subjects of book-keeping, accounting, and industrial and commercial arithmetic. Two years' teaching experience was a prerequisite, or graduation from a normal school of approved standing. The course itself was a one-year intensive.

Between 1900 and 1907 no material change occurred in the regular curriculum beyond that of supplementary courses. In 1906-1907 courses in real estate and conveyancing were introduced under the instruction of Charles Van Riper. In this year advertising and insurance were also introduced; all were extended for two terms or one year in response to the trend toward greater specialization as competition in business intensified. One sees in every extension of curricula under Commerce and Finance a constant, if uphill, struggle toward training at professional level. Special business courses continued, with prerequisite of graduation from a high school or at least two years of high school training; lacking these, the student was required to take an Institute examination in

English grammar and composition, geography, arithmetic, and United States history.

In 1909, upon the resignation of Professor Schoch, Professor Carl Lewis Altmaier was appointed to succeed him as director of the Department. Professor Altmaier maintained the policies and organization of Schoch; but the period of his administration coincided with the reorganization at the Institute, and the position of the Department of Commerce and Finance in relationship to the rapid growth from vocational school to technical college must now be considered.

REORGANIZATION

1914-1922

Carl Lewis Altmaier's connection with the Institute began as a result of his expertness in typing. A skilled pianist, he had become unknowingly a pioneer at touch typing and was brought to the Institute in 1893 to begin a long and distinguished association with Drexel. The first man in the East to teach the touch system, he was also the first to write a book upon it, entitled *The Model Typewriting Instructor*. A former student of law, the logical sequel to his teaching typing was teaching commercial law. As of May 20, 1909, Altmaier succeeded Schoch as director of Commerce and Finance.

Parke Schoch as head of business courses had differentiated commercial courses in the following way: first, stenographic courses with a low entrance requirement of grade school completion; second, secretarial courses with a three-year high school requirement, and later completion of high school plus examination in English. Identical with this as far as curriculum was concerned was a one-year secretarial course for college graduates. These statements relate, of course, to courses in office practice; the general courses in commerce and finance and in teacher training had been established and continued with far broader training. The differences between the stenography and secretarial courses and the two-year course in commerce and accounts were these: initially, stenography and secretarial work amounted to about the same thing and appealed to women. Two-year courses in commerce and accounts appealed to men, and so at first did teacher

training. The term "secretarial" had not been introduced before Schoch's administration; it was during his time that secretarial and stenographic courses were differentiated.

Throughout the history of the earlier business years accent has repeatedly been placed upon the planning of the courses for women, and it has been said that enrolment of women far exceeded that of men. In 1909, there were only twenty-seven men enrolled in the department. Professor Altmaier, however, undertook no major reorganization; he kept the departmental curricula much as Schoch had left them, under the general classifications of secretarial, stenographic, and two-year commerce and finance. Thus the department continued until the election to the presidency of Hollis Godfrey in 1913.

The general reorganization of Drexel curricula with a view to accrediting for degree has been traced elsewhere. After a survey of the business courses and business enrolment, President Godfrey, apparently intending to restrict the department to women, retitled it the Secretarial School. It is possible that Godfrey, who had taught in Boston before coming to Drexel, had in mind the establishment of a secretarial course modelled upon the training for women at Simmons College in Boston. Admission standards were raised to high school graduation minimum, and though secretarial courses were open to both men and women, the women far outnumbered the men. Commercial teaching, which had been reduced from the original three-year curriculum of 1903 to a one-year intensive, was extended by another year.

In the following year, a number of faculty changes occurred. Among those active on the business staff were Henry V. Gummere, of mathematics, and Abraham Henwood, Professor of Chemistry. Working with Professor Altmaier, they made a careful survey to discover specific educational needs of the trained secretary and office worker for maximum practical efficiency. After visits to prominent executives in commerce, transportation, and industry, they modernized the entire curriculum. The reorganized Secretarial School in its first year offered three courses: a two-year secretarial course for high school graduates in preparation for teaching commercial subjects; a regular one-year secretarial course for older students irregularly trained and for high school graduates with a knowledge of stenography and typewriting who desired intensive

training for secretarial work; and a general course in English language and literature grouped under title of "Extension." For the two short courses no formal requirement was made except acceptance by the faculty of the School; but for the first time secretarial training was announced as technical and admission requirements were raised to college equivalent. Certification and diploma were, for the first time, granted on a basis of year-hour work for credit. Business instruction, systematized, standardized, and modernized both in broad principle and specific practice, was ready for the realization of MacAlister's hope. It stood firmly upon the road to training at collegiate level. Announcement for the year 1915-1916 reads as follows:

The Drexel Institute, in its Secretarial School, trains men and women to meet the industrial demand for secretaries who are skilled in the use of correct English, and able to write letters on their own initiative as well as from dictation; who can handle those accounts which belong in the province of a secretary and who must have, in order to be secretaries and not merely stenographers, some knowledge of the organization, the mathematics, and the science of industry. . . .

The following year, 1916-1917, the School, moving toward the degree, offered two courses, the two-year junior college course and a four-year senior college course. Diplomas were granted to the graduates of the two-year junior college course, as they are today. Students entering the Secretarial School in the fall of 1916 could elect at the end of their first year to continue for one year more and complete the junior course, or to continue for three years more and complete the senior course. In this year admission to the junior college course was allowed in February, at the second half year—initial policy for the February admission of freshmen to the Institute. This is perhaps the place to note that the senior college course assumed a dual function, preparing the student either for administrative secretarial work or for commercial teaching.

An unexpected weakness in the organization of concurrent two and four-year courses soon became manifest. The curricula for both courses were the same during the first two years, assumption being that after the second year's work students, realizing the value of professional training, would proceed to the degree. Actually, the provision of identical curricula worked the other

way, a miscalculation perhaps less attributable to planning than to business prosperity current to the war and post-war years. Students contemplating four years to degree saw their two-year classmates finding satisfactory placement immediately after graduation. The result was that no students finished the four-year course.

Meanwhile, the offerings of the Secretarial School expanded in specialized subjects, and, in anticipation of placing business instruction for degree upon a coöperative basis, a requirement was announced of two six-week periods to be spent during summer vacations in practical secretarial work. "Controlled work" for women actually applied to the junior course in secretarial studies only, the senior course remaining unattended. The announcement of 1920-1921 rings a little hollow: "The Drexel Institute Secretarial School offers two courses: a Junior College Course of two years, and a Senior College Course of four years." Notwithstanding absence of demand for its senior course, the Secretarial School was ready after 1917 to grant degrees, and to that end had provided a proper curriculum. Provisionally, at any rate, business education at the Institute had achieved professional status.

THE SCHOOL OF BUSINESS ADMINISTRATION

1922-1941

At the end of the academic year 1921-1922 Professor Altmaier, after three decades of loyal service to the Institute, resigned from the directorship of the Secretarial School, but remained on its faculty as Professor of Secretarial Studies. On July 1, 1922, Mr. W. Ralph Wagenseller, well known in commercial educational circles as an organizer and teacher, was appointed director of the Secretarial School and also comptroller for the Institute.

With the support of President Matheson and Director Kapp, the scope of secretarial studies was promptly extended with a view to making the facilities of Drexel more appealing to men. Accordingly, in 1922-1923, the Secretarial School was retitled the School of Business Administration, and a four-year course in business administration along broad lines was announced. The four-year senior college was differentiated in its first two years from the two-year junior college course in secretarial studies.

In 1923-1924 came a greater diversity of courses: four-year busi-

ness administration and four-year commercial teaching for the Bachelor of Science in Commerce degree; a four-year secretarial course leading to the degree of Bachelor of Science in Secretarial Studies; and the one- and two-year secretarial courses for diploma. In the same year a five-year coöperative course in commerce and engineering was projected for the benefit of those who looked to careers in production management. Male enrolment increased until by the middle thirties the distinction between broad administrative courses for men and secretarial training for women had again become clearly defined.

The course in commercial teaching, at once extended to four years, was the first of such college courses to be approved in the state of Pennsylvania, the beginning of an accrediting policy pressed by the Institute, which traditionally had urged high standards for commercial teachers. Drexel has thus not merely realized MacAlister's dream of bringing commercial instruction to professional level, but has been a force in raising the status of commercial teaching throughout Pennsylvania.

In the School of Business Administration today, although commercial teaching is carried as a four-year course, for practical considerations the five-year coöperative in business administration stands foremost. A majority of the graduates from the latter course enter business and industry, but they may be certified for teaching if they choose, as electives, certain courses in education, and take one term each of teacher training and practice teaching, meeting thus the legal requirements of Pennsylvania and neighboring states for teacher certification.

Although it is true that the initial policy of the current School of Business Administration was to offer incentive to male enrolment, fully equal stress, once this trend was under way, has been placed upon education for women. Indeed, the School of Business today offers the only coöperative course for women at the Institute.

Retail Management: 1929-1941

The antecedent of coöperative retail management was a course in retailing, first given under the aegis of the School of Home Economics, since much of the original curriculum, which includes textiles, applied art, fashion design and display, were home eco-

nomics subjects. Retailing combined business training with a study of retail merchandising as related to the organization and conduct of chain and department stores, much as commerce and engineering, first offered by the School of Business Administration in 1924-1925, combined commercial training with a study of engineering practice.

One of the original requirements of the course in retailing was six terms of commercial experience in the department or specialty shops of Philadelphia, New York, and Wilmington. Difficulties were found, however, in correlating such experience, which had to be completed on afternoons and Saturdays of the junior and senior years, with the requirements of the curriculum at the Institute. An added difficulty was the unwillingness of authorities to create a special degree for the course. Accordingly, in 1933-1934 retailing became coöperative retail management in the School of Business Administration, its curriculum extended, the majority of its students women, and its plan paralleling that of coöperative commerce and engineering for men.

Thus, throughout the history of the School of Business Administration the Drexel idea of equal opportunity for men and women has been a constant factor. As in the early days of pioneering, so today the School maintains a flexible and adaptable organization. It does not favor strictly constituted departments and the rigidity which often attends them. Major groups rather than set departments constitute the School of Business Administration; and these groups, broadly speaking, are teacher training, accounting, management, finance, merchandising, and secretarial techniques. Flexible and balanced, the School stands ready to adapt itself to the needs of business and industry, with which it maintains close contact.

President MacAlister more than any other man, George W. Childs excepted, worked closely with the Founder, and translated into action his ideas of what Institute service ought to be. On June 18, 1892, at the end of the first semester of the Business Department, MacAlister, in an address already referred to, had said: "I hope the time will never come when it can be said for any department of the Drexel Institute that it is complete." This admirable statement of the open mind and the progressive spirit in education applies forcibly to the guiding principles of the present School of Business Administration.

CHAPTER NINE

ENGINEERING

DREXEL INSTITUTE was founded at a time when the country was becoming keenly aware of its industrial opportunities and needs. It was in the early nineties that the World's Columbian Exposition, which was to exert a powerful influence in the industrialization of the United States, was being built in Chicago. This great exposition may be said to have signalized the opening of the modern engineering epoch; it was there, for example, that the polyphase system of electrical power was first exhibited; it was there, too, that the Corliss steam engine and the Parsons steam turbine showed the first significant fruits of theoretical thermodynamics.

Although the science of engineering was not referred to in MacAlister's *Preliminary Circular of Information*, 1891, certain courses in three of the eleven original departments of the Institute directly foreshadowed formal engineering training. In July, 1893, a special circular announcing instruction in electricity and electrical engineering was issued. The general reference to electricity in this publication is as follows: "The growing importance of the subject and the constantly increasing number of its applicants are opening up new opportunities for young men in various lines of work."

CONSTITUENT COURSES OF THE SCHOOL OF ENGINEERING

Of the constituent courses of what is now entitled the School of Engineering, there were two original groups: the Scientific, comprising chemistry, mathematics, and physics; and the Technical, comprising applied electricity, machine construction, and machine drawing. From combinations of these six evolved, first, electrical engineering, and somewhat later, mechanical and civil engineering. A third group of courses comprising mathematics, science, language, drawing, and shop, and generically entitled Mechanic Arts, opened September 12, 1892, for young boys as a preparatory three-year curriculum for the more advanced science

and technical studies. The pure sciences began under certain difficulties, mathematics in particular being limited in scope in both day and evening by reason of the elastic requirements for admission, which varied with every department and course. The same drawback faced the departments of physics and chemistry; and it is in large measure owing to their difficulties in finding a sufficient number of adequately prepared students to undertake even moderately advanced instruction that engineering curricula in the true sense were so long deferred.

During the early years, however, neither in personnel nor in equipment was chemistry, opened in early February, 1892, handicapped. To this era belongs Ernest A. Congdon, whose memory bears down the years the picturesque Institute legend, that he would at times appear briefly before his evening classes in full evening dress to turn them over formally to Abraham Henwood, his assistant, before departing for the opera at the Academy of Music.

A report for the year 1892-1893 by Professor William Hopkins, first head of the department of physics, states clearly the problems that faced the departments of physics, chemistry, and mathematics:

. . . The course as given this last term . . . does not exactly meet the wants of our students, and I am now engaged in planning a course which will be better adapted to the needs of the Institute. It will cover the full year and include thorough work in the laboratory and classroom, and will be a definite and useful preparation for the more advanced course given the same students the following year. . . . The quality of the work of the preparatory course shows too great an immaturity on the part of the students. They lack methods of observation, the importance of which is but now beginning to be appreciated in public school work. . . . The advanced course has been successful beyond expectation. . . .

It is notable that even in this first year Professor Hopkins points out that laboratory sections cannot even with the addition of another instructor exceed a limit of twenty students. Other reports, both by Professor Arthur J. Rowland and by William Bailie, head of Mechanic Arts, point out repeatedly that for adequate instruction the laboratories place a limit of twenty upon these early

classes, an explanation of the seeming slowness of enrolment in the early years of the engineering instruction.

Before work could be systematized and integrated in a way that would make possible new curricula the Institute had to await partial fruition of the work of Professor Rowland, and after 1904, of his close friend and associate Henry V. Gummere, Professor of Mathematics. Both were organizers of the first rank, and it is owing to their joint efforts that mechanical and civil engineering were systematized, and that courses were grouped and coördinated both in evening and in day instruction.

Electricity, Forerunner to Electrical Engineering

Arthur J. Rowland, first Professor of Applied Electricity, and later Dean, was invited shortly after his graduation from Johns Hopkins University to organize electrical work at Drexel Institute. After spending the summer of 1893 equipping a room in the basement of the building at 28 South Thirty-second Street for a laboratory, classroom, and personal office, he began work in the fall. In a memorandum to Miss Harriet E. Worrell, he affirms that he planned all his own teaching, worked independently of other faculty members, and recalled no faculty meetings or discussion, eloquent testimony of the absolute autonomy current among departments of the early years of the Institute.

Revealing, too, is his statement that he organized two courses, one for men with slight education; another for those who had some mathematics and physics. This provision for evening students applied in principle to the day, since admission standards were equally flexible for both. Rowland writes that he organized an "electrical engineering" course for day classes to follow Mechanic Arts, and that this course comprised two years. Later he established a preparatory year for men informally trained who desired to enter the two-year course. In 1898, he worked up an improved three-year plan for standard electrical engineering of college level, and notes that this was approved and that Dr. MacAlister congratulated him upon it. The general plan "was to have an electrical course of a strictly technical or applied sort, arranged on a basis such that it could be taken by young men coming from homes where there were modest resources, and so planned that a

young fellow need not take the whole course to have real value, but at the end of the first, second, or last year could go out definitely prepared for certain types of work in the engineering field." This arrangement, therefore, was hardly a formal curriculum: it was flexibly planned to meet differing needs.

The progress of engineering, from its formal beginning in 1893 to 1899, therefore, lends itself to the following summation. The Scientific Department, comprising chemistry, mathematics, and physics, felt its way somewhat uncertainly, each teacher working independently toward courses as advanced as facilities and student preparation permitted. Out of the heterogeneous Technical Department, which comprised applied electricity, machine construction, mechanical drawing, wood carving, cookery, household decoration, dressmaking, millinery, and photography, the first three were in 1893 grouped, together with the pure sciences, under the major title of the Department of Science and Technology. By 1897, Rowland had organized an advanced course in electrical engineering of two years, with admissions privilege either to graduates of Mechanic Arts or of the one-year preparatory course. Similar courses in machine construction and in mechanical drawing, each of two years, had previously been organized under his associate of the same name, though no relative, John F. Rowland. Grouped special courses were chemistry, physics, and mathematics, from the last of which civil engineering must trace its beginning.

It is valid to say, then, that by 1899 electrical engineering at Drexel was fairly mature; that courses in machine construction and mechanical drawing pointed the way toward mechanical engineering; and that mathematics, with a special course in building construction and strength of materials, was fast drawing together a civil engineering group.

In 1900 a regrouping occurred, mathematics, physics, and chemistry withdrawing under title of science courses, possibly because of the increased part they were playing as service departments to instruction other than engineering. Technical courses, comprising mechanical drawing and machine construction, from the first closely and naturally related, likewise formed a separate division. In this year first appears the Department of Electrical Engineer-

ing, offering electrical engineering and mechanical engineering, each with a two-year curriculum. The reason for the withdrawal of the technical courses may be deduced from an account of the interrelated function of mechanical drawing and machine construction as noted in the *Institute Bulletin* of December, 1904:

The work is done according to the system in drawing rooms of large manufacturing plants. Several students in advanced classes are appointed head draughtsmen. Each head draughtsman is given complete charge of the design to be built in the shops for use in the Institute, and supplied with as many assistants from less advanced students as necessary. The head draughtsman makes the assembly drawing of the machine and takes charge of the work as a whole, fitting together the various parts to make the complete design. Construction of the machines designed in the shop reveals any mistakes in the drawings; when a mistake is reported, the student responsible for that drawing must make its correction, so impressing on him the need of care and accuracy. The results of this system, after several years of operation, are extremely gratifying. They are shown best by the machines themselves now in constant use in the shops and laboratories of the Institute.

The working out of this plan, which had the advantages of constantly adding to the equipment of the Institute while at the same time giving students the best kind of practical experience, was due in large part to the efforts of Thomas Smith, at that time head of mechanical drawing, in close coöperation with the instructors in machine shop, woodworking, and forge. Clement Mossop, of machine shop, had his own system worked out in addition: even beginning students were put to turning out simple parts; if these turned out well, Mossop pigeonholed them until such time as they were needed. If they did not, he arranged the work so that smaller parts could be made from the same material. The machine shop thus never wanted for spare equipment, the student felt that he was accomplishing something both practical and useful, and Mossop's training was recognized for its worth throughout the city. It seems clear that design and construction were taught in very close correlation as a specialty skill; electrical and mechanical engineering appear to have offered broader technical curricula.

Mechanic Arts

Mechanic Arts, under Lieutenant William Bailie, comprised mathematics, science, drawing, and shop. It was open to boys of fourteen to seventeen with grade school education, and was conducted at frankly preparatory level. Its training was accepted as a prerequisite for more advanced scientific and technical training at the Institute. As its standard gradually advanced, a curious practice, apparently operative, though never officially announced, was admission of mechanic arts students at the end of first or second year to those courses not too advanced for their training.

Mechanic Arts, retitled in 1903 the School of Mechanic Arts, and reorganized in 1914 as a three-year preparatory course under new title as the Lower School, was discontinued in 1916.

INTEGRATION

1903-1914

It was perhaps looking toward President MacAlister's survey of the Institute in 1905 with a view to determining the possibility of incorporating it as a college, that the whole instructional group of science courses, technical courses, the department of electrical engineering, comprising also mechanical engineering, and mechanic arts had been grouped in 1902 under a general title of the Department of Science and Technology. The title meant nothing, for the administration and curricula of the several groups remained unaltered. Yet change was in the making. Though science courses remained science courses, the technical courses of mechanical drawing and machine construction, together with the department of electrical engineering with its two-year curricula in electrical and mechanical engineering, were grouped under the single head of the School of Electrical and Mechanical Engineering. This school was retitled in 1903 the School of Electrical Engineering, with a three-year curriculum; in 1906, it became the School of Engineering, retaining the three-year curriculum, but now with a first year of uniform instruction, students majoring in the junior year in electrical, mechanical, and civil engineering for certification upon graduation.

In 1906 the science courses were retitled the School of Science,

with two-year curricula for diploma in regular courses and auxiliary courses, so called, for the engineering curricula. In the next year, the School of Engineering was formally departmentalized into mechanical, electrical, and civil engineering, under professors Starkey, Rowland, and Benkert respectively. By 1908 integration was complete. The School of Engineering, now growing out of its vocational stage, was looking toward professional status.

Credo of the Middle Years: 1908-1914

As stated in the Institute's formal announcement of 1906-1907 and as operative the following year, mechanical, electrical, and civil engineering offered three-year curricula. The first or preparatory year was devoted to mathematics, physics, mechanical drawing, chemistry, and shopwork. The second and third years were special to each of the three courses. Admission standards required algebra to quadratics, plane geometry, and high school English. All applicants were examined in mathematics.

The engineering courses for this period represent the compromise between Drexel's original concept as a vocational school and the growing concept of engineering as a profession. The compromise arrangement viewed in retrospect appears plainly as an advance toward training at broad professional level. Moreover, the training itself was modelled upon college curricula of the day, and laboratory equipment was comparable to that of engineering colleges.

But the Engineering School could not stand still. College entrance requirements could not be exacted of high school graduates in return for a fraction of the college curriculum and an irregular status in the engineering world which such training could at best offer. Organization at college level for degree had to come, and the step to it was short.

Before proceeding to the reorganization of the Engineering School at collegiate level, a word should in justice be said for the earlier type of training. For two decades Drexel had turned out able men, well equipped and thoroughly trained to take their places in the engineering world, and so recognized over a wide area. It was only in the later years that Drexel men, though equal in training and practical work aptitudes to the college graduates with whom they worked, found their occupational ceiling limited

by lack of degrees. The peculiar disadvantage under which they labored was a strong force in determining the Institute's change-over policy.

THE SCHOOL OF ENGINEERING

1914-1921

With the retirement of President MacAlister in 1913 and the appointment of Dr. Godfrey to succeed him, the growth of the Institute to collegiate status, contemplated as early as 1905, was greatly hastened. In the judgment of the new president, the time had come to simplify the internal structure of the Institute, to consolidate its work, and to bring its scholastic program into closer touch with current commercial, industrial, and educational developments.

To achieve these ends Dr. Godfrey consolidated the day courses into definite curricula under three schools, of which Engineering was one. The newly designed college courses in engineering were of conventional length: four years, the work of the first three being alike for all students, that of the fourth comprising specialization in civil, electrical, or mechanical engineering.

Viewing the matter objectively, it appears that the Institute between 1892 and 1914 had made a fair trial of non-degree, day-time engineering education without finding a wholly successful formula. If engineering was a profession, it was clear by 1914 that the technical colleges were not only giving professional training: they were putting upon that training the stamp of the collegiate degree. To do as much, the Institute, in spite of the excellence of its early engineering, was forced to systematize its day curricula at the college level. Specifically it had to revise entrance requirements, extend courses to four years, and grant degrees upon the completion of the courses. All of these advances were promptly undertaken.

While in scope and method the courses announced for 1914-1915 were clearly designed to be of college grade, they were to have certain characteristics which would distinguish them from the usual engineering courses. First, the courses were to be much less specialized, the aim being to prepare students so broadly that they could succeed in any field of engineering. Secondly, the

requirements of admission were to be more flexible than those of most colleges and universities, the premise being that many were barred from engineering colleges by unreasonably rigid entrance requirements. Finally, the tuition was to be low, so that few, if any, should be excluded by the cost. All of these provisions were clearly in accord with the traditions of the Institute.

Curricula for Degree and Diploma

The first announcement* of the reorganization of the Engineering School explained that while no degree was then being offered, the Board of Trustees had petitioned for the right to do so. It must be remembered, however, that the faculty, the curricula, and the equipment of the Institute were in 1914 adequate for engineering training on the college level, and that from the beginning many of its technical courses were advanced. But entrance requirements were below standard, as the Institute was soon to discover.

The announcement further explained that the Institute would not attempt "to lay the field of the world's knowledge open to its students." On the contrary, it would restrict its fields of study, emphasize teaching, and "keep its entrance requirements more elastic, thus giving unusual opportunities to students irregularly trained but eager for knowledge, as well as to students whose work has been along regular preparatory lines."

Also announced was a three-year course for diploma in engineering, intended for men of maturity and practical experience who, irregularly schooled, would find themselves out of place in a standard high school program. It was to be possible for the graduates of this course to transfer to the regular four-year college course. For admission a grammar school education would suffice. In addition, a normal course in manual training was designed to prepare teachers of manual training subjects. The curriculum was two years in length and the admission requirements were identical with those of the four-year engineering courses. These requirements were not fixed; admissions were contingent upon committee action.

Thus were launched Drexel's college courses in engineering.

* Official publications of the Institute for 1914-1915: separate booklets, issued at various times, the first probably in the spring of 1914.

The right to grant degrees was obtained, and announcement made in the later publications of 1914-1915. What the fortunes of these four, three, and two-year courses would have been had the World War not intervened, no one can say. There is no evidence to support a belief that the Institute had yet discovered a formula that promised either unique place or reasonable growth. Freshman engineering enrolment figures from the years 1915 to 1918 tell their own story:

February, 1915	126
September, 1915	136
February, 1916	126
September, 1916	107
February, 1917	106
September, 1917	123
February, 1918	100
September, 1918	85

The three and two-year courses showed less promise still. Though it may be said that the war years did not favor any formula, it seems clear in the light of what is now known about collegiate and non-collegiate technical education that such an all-purpose provision did not promise well. Four years beyond high school study is necessary preparation for the engineering profession the country over; furthermore, the engineering curriculum must contain subjects for which the entrance requirements of 1914 did not prepare.

The faculty of the School of Engineering, under the organization of 1914, consisted of eight full professors, one each for civil engineering, English, design, mathematics, chemistry, physical training, mechanical engineering, and architecture; twenty instructors; and five assistants and fellows. The dean was Arthur J. Rowland, Professor of Electrical Engineering.

This faculty remained fairly stable until 1918. In that year the Institute lost the services of Dean Rowland, who had been connected with Drexel since 1893, of Abraham Henwood, Professor of Chemistry, of Harry N. Benkert, Professor of Civil Engineering, of L. Cheston Starkey, Professor of Mechanical Engineering, and of Henry V. Gummere, Professor of Mathematics. Arthur Truscott, Professor of Architecture, John J. Dull, Professor of Design,

and Harriet L. Mason, Professor of English, had already passed from the Institute scene. To all these Drexel owes a debt of grateful remembrance.

The positions vacated by these men had to be filled. A further problem faced the Institute. The war had accelerated production and had otherwise altered industrial processes. A new formula for engineering education, adaptable to post-war conditions, had to be found—and was found in the coöperative plan, which was promptly put into effect.

Post-war Personnel

The break-up of the faculty and the disorganization occasioned by the war years ushered in a most critical period. If the Institute was to move forward, it must appoint a new dean, recruit an almost entirely new faculty, and establish the coöperative plan on a sound and systematic basis. The war ended in November, 1918, and the president of the Institute very soon thereafter entrusted this work to Mr. Ira W. Fisk. Mr. Fisk had come to Drexel as Professor of Electrical Engineering on August 10, 1918, to take the place of Arthur J. Rowland, whose resignation took effect at the end of the academic year.

Mr. Fisk had been engaged as administrative head of the Institute, but apparently his duties had not been well defined. Two men, H. O. Siegmund and C. E. Randa, had come with Professor Fisk from the University of Illinois to the Department of Electrical Engineering, Siegmund as assistant professor, Randa as instructor. The Mechanical Engineering Department staff consisted of Dawson Dowell, who came from the University of Pittsburgh in September, 1918, C. E. Mossop, W. Clinger, and J. M. Pearson, a personal appointee of the president of the Institute. In the Department of Civil Engineering were Professor W. E. Rowe, and C. M. Broomall, instructor.

The academic year 1918-1919 was one of the most eventful years in the Institute's history. Before the war ended the president had decided to operate the entire Institute upon the coöperative plan, and instructed Professor Fisk to take the necessary steps. Mr. Fisk, enthusiastic and able, believed that the plan, at least for engineering, could be put into order by January, 1919. Mr. Harold C. Bales, a schoolman from New England, was appointed co-

ordinator or, to give his position its present designation, director of coöperative work. Mr. Bales' appointment represents the Institute's first attempt to fill successfully that post.

The task of reorganizing the School of Engineering was too complicated to be completed during the academic year 1918-1919. The decision to attempt it on such short order was probably unwise. In any event, Professor Fisk became dissatisfied and resigned in March, 1919. Brief as his connection with the Institute was, he did yeoman service for the coöperative system by arranging the present all-year plan of quarterly terms beginning respectively January, April, July, and October the first.

Dr. Godfrey now turned to his friend Mr. Charles J. Tilden, then Professor of Civil Engineering at Johns Hopkins University, in the hope that he might undertake the deanship. Professor Tilden, however, had accepted a professorship at Yale University and was unavailable. He recommended for the office a colleague at Johns Hopkins, Mr. John H. Bringhurst, who accepted the position on the understanding that he begin work at the end of the academic year. In the meantime the new dean was to come frequently to the Institute during the spring to prepare a reorganizational program during the summer of that year.

The engineering faculty roster in the spring of 1918, when Dean Bringhurst took charge, included Dawson Dowell, assistant professor, and R. H. Clinger, instructor, in mechanical engineering; Maxwell Cutting, assistant professor, H. O. Siegmund, assistant professor, and C. E. Randa, instructor, in electrical engineering; W. E. Rowe, professor, and C. M. Broomall, instructor, in civil engineering; L. D. Stratton, assistant professor, and Florence N. Hayward, L. H. Hechinger, and H. A. Wanner, instructors, in chemistry; J. J. Barrett, assistant professor, in physics.

Many of these teachers were young, inexperienced, and new at the Institute. Not one of the major departments was fully and satisfactorily manned at the time of Dean Bringhurst's appointment. In consequence, the new dean found it necessary not only to revise the curriculum and modernize equipment, but also to appoint faculty. In accomplishing these objectives he sought the advice of his colleagues at Johns Hopkins, particularly Professors C. J. Tilden and A. G. Christie.

As a result, R. C. Disque of the University of Wisconsin and

J. H. Billings of the University of Missouri were appointed to head respectively the departments of Electrical and Mechanical Engineering. Of great significance to the Engineering School was the appointment at this time of Dr. H. C. Wolff as professor and head of the Department of Mathematics. Late in the summer Dean Bringham, realizing that he could not continue to fill a professorial position in civil engineering in addition to his other duties, engaged M. D. Kolyn, then a major in the United States Army, as Professor of Civil Engineering, Professor Rowe having resigned.

THE COÖPERATIVE COURSES

The foremost problem, that of the curriculum, was undertaken during the summer of 1919 by a committee consisting of Dean Bringham, for civil engineering; Professor J. H. Billings, for mechanical engineering; and Professor R. C. Disque, for electrical engineering. A four-year curriculum comprising ten academic terms and four industrial terms was decided upon for the new coöperative course. The juniors and seniors of the former courses for degree were to be carried through to graduation; but all freshmen and sophomores were to be enrolled in the new coöperative courses. Temporarily, Professor Dawson Dowell acted as director of coöperative work. In December he was succeeded in this position by Mr. F. H. Linthicum. There was no industrial work in the freshman year and none in the senior year. Admission requirements included fifteen units of high school work to be unspecified until the fall term of 1920, when examinations in English and mathematics were to be required.

Under the four-year coöperative plan of 1919-1920 freshmen followed parallel curricula for three quarters, and enjoyed vacation the fourth. Sophomores and juniors, still following parallel training at the Institute, spent alternate quarters in school and in industry, but enjoyed no vacation. Only in the final year did curricula diverge and students specialize in their chosen engineering majors. Upon completion of 210 credits they graduated in June with the B.S. degree. In sum, the first seven terms of the new curriculum were alike for all three courses; the senior year, consisting of three terms, was specialized under civil, electrical, and mechanical engineering.

By the beginning of 1920 the Engineering School was moving toward what seemed a promising future. The freshman class numbered eighty. The reorganized faculty had settled down to serious and thorough work, and there were many indications that the students appreciated what was being done for them. Unfortunately this situation was not to last. Again, as on two previous occasions, the duties and responsibilities of the dean had not been defined clearly enough to assure harmonious administration. As a result, in June, 1920, Dean Bringhurst, to the dismay of those who knew his qualities, resigned. The value and permanence of his service to Drexel is out of all proportion to his brief tenure as dean.

Shortly after the commencement of 1920, it was announced that Mr. Linthicum, director of coöperative work, had been appointed dean. While this was a surprise to the faculty, there was a modicum of satisfaction to them that appointment had gone to one acquainted with the conditions and necessities of the situation. It soon became evident, however, that Dean Linthicum's office was to be temporary, pending the selection of a more experienced college administrator. In the meantime progress, fortunately, was not seriously halted; for the faculty was harmonious and believed in the coöperative plan. The enrolment in the coöperative courses was promising. Given a reasonable opportunity, it was evident that the School of Engineering would rapidly prove its right to unique place through unique training.

At the end of the academic year 1920-1921, the Engineering School was well embarked upon its coöperative plan, with good prospects for the future. The faculty was composed of young men with sound experience in engineering education, all in close touch with the latest developments in the engineering field. Stable and consistent administration seemed to be the only requisite for the success of the newly formulated program. This, as it happened, was not immediately forthcoming; for the Institute found itself again faced with a major change in leadership.

In October, 1921, the announcement was made that Dr. Kenneth G. Matheson, then president of the Georgia School of Technology, had accepted the presidency of the Institute to take office in the following April. The news of this appointment was received with great satisfaction by the faculty and students because, in

addition to being an able administrator, Dr. Matheson had had experience with the coöperative plan. Before deciding finally to accept the presidency of Drexel, he had received from Dean Herman Schneider of the University of Cincinnati, originator of the plan of coöperative education, the assurance that Philadelphia, noted for its industrial diversification, was ideally suited to this type of engineering training. This assurance strongly disposed Dr. Matheson to accept the position.

ENGINEERING UNDER MATHESON

1922-1931

Although President Matheson's administration is treated at length elsewhere in this volume, certain of his early moves to strengthen the School of Engineering must be mentioned here. Almost at once, in the interest of more efficient and more responsible administration, he reorganized the faculty structure of the Institute. Of particular importance to engineering was his early appointment of C. A. Kapp as director of coöperative work. The new director was a graduate of the University of Cincinnati and also had worked with Dr. Matheson at the Georgia School of Technology. He was well qualified for the difficult position to which he was appointed, a position which he has for two decades filled with distinction. Promptly, too, Dr. Matheson moved to reestablish physics at the Institute on a basis appropriate to the importance of the subject in technical education. In consequence, another of his early appointments was that of Dr. J. E. Shrader as head of the Department of Physics, which for some years had been without professorial direction. Dr. Shrader and his associates have accomplished Dr. Matheson's purpose.

By the fall of 1922 these appointments, together with those already made by Dean Bringhurst, had completed for the School of Engineering the roster of departmental heads, which was as follows: M. D. Kolyn, civil engineering; R. C. Disque, electrical engineering; J. H. Billings, mechanical engineering; L. D. Stratton, chemistry; E. D. McDonald, English; H. C. Wolff, mathematics; J. E. Shrader, physics; C. A. Kapp, coöperative work. All of these men, Professor Kolyn excepted, still remain in their posts. In 1925 Mr. Kolyn resigned and was succeeded by Professor L. C.

Urquhart of Cornell University. Upon Mr. Urquhart's resignation, effective September, 1926, the wholly admirable appointment of Professor H. L. Bowman brought to civil engineering stability of direction.

On October 16, 1924, the office of academic dean was created and Professor R. C. Disque, head of the Department of Electrical Engineering, was appointed to fill it. Thus, in effect, was reestablished the office of dean, which had been held by A. J. Rowland, I. W. Fisk, J. H. Bringham, and F. H. Linthicum under prior administrations. The duties of the academic dean were not definitely prescribed but the men appointed understood them to include the coordination of the purely educational administration of the several schools and the maintenance of reasonable uniformity among them.

National Societies

Prior to Dr. Matheson's coming to the Institute the School of Engineering had been officially recognized by three national engineering societies. As early as 1915, the right to grant degrees in engineering being secure, Dean Rowland had encouraged individual upper-classmen to affiliate with the American Institute of Electrical Engineers. In the period of the Bringham reorganization of the Engineering School this policy was greatly expanded, and by 1921 Drexel student branches had been formed in the American Institute of Electrical Engineers, the American Society of Mechanical Engineers, and the American Society of Civil Engineers.

Although the approval of these professional organizations was of the utmost importance to the School of Engineering, it did not wholly meet the requirements of the situation. Realizing this, President Matheson promptly undertook to win for Drexel engineering the additional approbation of leading educational accrediting agencies. On the advice of Dr. C. R. Mann, sometime director of the American Council on Education, Matheson approached the Association of Colleges and Secondary Schools of the Middle States and Maryland, foremost accrediting body for Pennsylvania. He learned that the Association, acting through a Commission on Institutions of Higher Learning, accredited col-

leges of liberal arts only, and was without authority over technical institutions.

Determined to clarify the position not only of Drexel, but that of other technical colleges within the territory of the Association, Dr. Matheson enlisted the support, among others, of the presidents of the Stevens Institute of Technology, the Carnegie Institute of Technology, and the Polytechnic Institute of Brooklyn. After a protracted consideration of the problems involved in accrediting technical institutions of the Middle States and Maryland, the Association directed its Commission "to prepare a list of approved engineering schools within the territory of the Association." This action was taken at Buffalo in November, 1926. Within a year of that time the Commission's representative, Dean A. M. Greene of Princeton University, formerly instructor at the Institute, inspected the Engineering School and recommended that it be approved. This happy issue of the School's accrediting by the Association was preceded by the admission of the Institute to membership in the American Council on Education; also by the registration of the School of Engineering by the Regents of the University of the State of New York.

The Five-year Curriculum

Undoubtedly, one of President Matheson's most important strokes of policy was his decision that the coöperative engineering course should be extended from four years, as originally designed, to five. This was in large measure the president's personal decision. Many on the faculty viewed his insistence upon a five-year curriculum with misgiving and were frankly skeptical of its practicability for Drexel at the time of its proposal. Nevertheless, two features of the extended curriculum appealed strongly to the faculty. First, in a five-year course, though coöperative, substantially all of the academic work of the conventional college course in engineering could be included. Second, the common and irksome criticism that the coöperative plan entailed a serious sacrifice of training in fundamentals for the sake of industrial work would be silenced. In a five-year course there would be no sacrifice whatever.

After conferences with the faculty, Dr. Matheson strongly reaffirmed his belief in the five-year curriculum. His experience at

the Georgia School of Technology, as well as the advice he had received from Dean Schneider, convinced him of the complete feasibility of the plan for Drexel. As a result, public announcement was made that all entering engineering students for the academic year 1925-1926 would be enrolled for a five-year curriculum. This made obligatory twenty-one months in industry and thirty-three months in class and laboratory study.

The curricula in civil, chemical, electrical, and mechanical engineering were designed to graduate the first five-year students in 1930, graduation in 1929 being omitted, for the plan was retroactive. While much valuable time for study and work was gained by the added year, the extended curricula were in principle similar to those which they displaced. Emphasis continued to rest upon pure science fundamentals; specialization, except in chemical engineering, was as before deferred to the senior year. Though subsequent developments, such as the construction of Curtis Hall, with increases in facilities and equipment, have naturally resulted in many advances not contemplated in the curriculum of 1925-1926, the program then charted is in all essentials still in effect.

Chemical Engineering

Chemistry is intricately woven in the pattern of Drexel education. From the very beginning of the Institute, chemical courses were basic to training in engineering and domestic science; almost as early, functional and terminal courses in chemistry were offered for certificate or diploma. The latter did not long survive the Godfrey reorganization of 1914, and for almost a decade thereafter only so-called service courses were given by the Department of Chemistry. In the early twenties, however, came a demand for chemical engineering, and in 1923-1924 a four-year coöperative course for degree in chemical engineering was established under the general direction of Professor L. D. Stratton. Like the older engineering courses, chemical engineering also became a five-year course in 1925-1926.

Facilities at the Institute for the new course were meagre, until in 1928 the construction of Curtis Hall provided space for a modern laboratory especially equipped for chemical engineering. Between 1925 and 1928, however, much was done by instructors T. B. Drew and F. A. Fletcher in spite of lack of space and equip-

ment. In 1928 Mr. Drew, then in direct charge of chemical engineering, resigned. He was succeeded by Mr. J. H. Rushton, who, with the assistance of Dr. R. S. Hanson, directed the purchase and installation of much of the equipment of the new Curtis Hall laboratory.

The growth of chemical engineering at the Institute in recent years is owing to increased accent upon strictly chemical engineering subject matter, field trips for the study of plant design, curricular emphasis upon thermodynamics, electrochemistry, and physical chemistry, research projects conducted jointly by students and faculty, and professional consulting work by the latter. Recently, under the direction of Dr. H. C. Ward, the laboratories have been redesigned for the accommodation of new equipment and for increased efficiency. Popular from the start, chemical engineering has rapidly taken its place on equal footing with the older branches of engineering at the Institute.

THE SCHOOL OF ENGINEERING

1932-1941

By 1932 the School of Engineering stood substantially as it remains today. Conspicuously successful by reason of its progressive staff, wise administration, and favored position in an area of diversified industrial enterprise, it had become recognized as one of the country's best examples of cooperative education. The years 1932 to date have been marked by some change in general Institute administration which has favorably affected the School of Engineering, and at least two major honors have been accorded the School itself.

On October 17, 1935, Dr. Kolbe, speaking before the Trustees of the Institute, referred to the formation within the Engineers' Council for Professional Development of the Committee on Engineering Schools, whose specific duty is "the inspection of engineering colleges with a view to the accrediting of curricula offered by them." He also pointed to the necessity of inviting this committee to inspect the School of Engineering. On April 16, 1936, Dr. Kolbe reported that the Engineers' Council for Professional Development was to make the examination the following month. On the basis of its rigid inspection the Council promptly and fully

accredited the School of Engineering, placing it on the first list of approved schools ever published by the entire engineering profession. The importance of this is perceived when it is understood that the Council acted as the accrediting agent for five national engineering societies, the Society for the Promotion of Engineering Education, and the National Council of State Boards of Engineering Examiners.

Throughout the history of the School of Engineering since 1922 the success of the coöperative formula is everywhere apparent. Some indication of the School's growth appears from placement figures: in 1922, fall quarter, 42 students were in industry; in 1941, 351 were so engaged. Further evidence of Drexel's position in coöperative engineering appears in the appointment, in 1939, of Dean Disque to succeed the late Dean Herman Schneider as educational consultant to the Walter C. Murphy Foundation in the establishment of a comprehensive system of coöperative engineering at Northwestern University.

In 1939 the Institute began participation, through her faculty, in the program of national defense. Dean Disque, reporting upon engineering and national defense for the year 1939-1940, noted that as of this year, Professor Dowell served as chairman of a subcommittee of the Philadelphia Council on Vocational Education for National Defense. Professor J. B. Baker served as vice-president of the Philadelphia chapter of the Society of American Military Engineers, and in August, 1940, Professor Bowman was appointed consultant in Division C of the National Defense Research Committee, especially on problems related to field engineering. Dr. J. E. Shrader of the Physics Department, inventor of the tri-dimensional vibrograph, is official investigator of the National Defense Research Committee, Section 3, Instrument Division.

President Kolbe, reporting upon the enrolment, curriculum, and needs of the School of Engineering for the year 1939-1940 outlined several problems still before the School and before the Institute. Since 1893 the constant cry of Drexel Institute has been for greater space to accommodate enrolment pressure. Today, "so far as the pure teaching function is concerned we reached in the academic year 1939-1940 a level of effectiveness closely commensurate with our time and space facilities . . ." Of the engi-

neering curricula and the desirability for broader cultural background, Dr. Kolbe wrote as follows:

The basic principle of our curricula has been the emphasis on fundamentals, and very few changes have in consequence been found necessary. The arduous task of fitting the various courses of the four curricula to the facilities of the Institute has been notably well done by our schedule committee. The only serious difficulties are those related to the electives. We have made many efforts to broaden and enrich the elective opportunities, with some success; but much still remains to be done, particularly in the area of cultural subjects. It is my firm conviction that we are losing a great opportunity by not utilizing the industrial period for stimulating independent reading in non-technical fields. A small but significant beginning could be made by devoting part of one instructor's time to this enterprise. It is hoped that the Institute's resources may soon enable this to be done.

The principal needs of the School of Engineering, therefore, are those of space and equipment. A new chemistry lecture-room is needed; an accelerated program for rehabilitating the shops, which are conceded to be among the best in the United States, but which require ever-modernized equipment; and general additions to laboratory equipment. The era of a complex test and research program in industry, and the rapid advance of inventive genius in the field of electronics, of aeronautics, and of plastics, will require increasingly advanced training in the pure sciences.

ENGINEERING AND NATIONAL DEFENSE

In an address before the Society for the Promotion of Engineering Education delivered at Ann Arbor, Michigan, on June 25, 1941, A. A. Potter, Dean of the School of Engineering, Purdue University, and chairman of the Advisory Committee on Engineering Defense Training for the United States Office of Education, outlining the development of several programs, began with the following words: "In the spring of 1940 . . . it was apparent that . . . the national defense program required for its effectiveness large numbers of skilled mechanics as well as . . . engineers competent in . . . technical services. It was felt that the trade school and engineering colleges . . . should be utilized in meeting the shortage of skilled workers and engineers." Such was the beginning of the federal program of engineering education, in

which Drexel Institute is now a participating school. On October 9, 1940, nine million dollars was appropriated to the United States Office of Education for "short engineering courses of college grade . . . to meet the shortage of engineers with specialized training in fields essential to the national defense." A second appropriation of May 13, 1941, of sixteen million continued that defense program, which will certainly continue at heightened tempo for the war's duration.

The general organization of the federal engineering education program, of which the Institute is part, will bear a word of clarification. The government bureaus primarily concerned with supplying industrial needs for technically trained men are the Civil Service Commission, the Defense Council, the Army, the Navy, and the Bureau of Labor Statistics. Through these bureaus the number of technicians needed and the character of technical training called for is determined and referred to the United States Office of Education, which as liaison agent between government, industry, and the colleges undertakes to supply the training they require. The United States Office of Education communicates these needs to the colleges not directly, but through the Advisory Committee on Engineering Defense Training, a board of educational administrators. Technical colleges approved by the Advisory Committee and desiring to participate, submit tentative curricula. If these curricula are approved, members of the faculty organize such courses and give them under subsidy of the United States Office of Education, which pays tuition, administration, and equipment costs. Regional administrators coördinate engineering education within a specified area and are responsible to the Advisory Committee.

Drexel Institute is one of Pennsylvania's twelve participating colleges in the federal program of engineering defense training, and offers both at the Institute and at plants within the area of Greater Philadelphia thirty-seven intensive courses of college level. Broadly grouped, these prepare full-time students in the elements of engineering, and give instruction to in-service students in testing, operation, shipbuilding, tool and welding engineering, and metallurgical inspection. Thus, quite apart from the fact that the nature of her purpose and organization of technical training is in line with present national needs, Drexel Institute,

particularly in Engineering, extends both through faculty and plant, specific services of an emergency nature.

THE RESERVE OFFICERS' TRAINING CORPS

1919-1941

Let it be said at the outset that military training is arbitrarily treated under the School of Engineering because at the time of its establishment at the Institute, practically all of its students were enrolled for engineering. As a matter of fact, military training has been since 1919 compulsory in the first two years for all male students at Drexel. On October 10, 1918, the Students' Army Training Corps was organized at Drexel, but was demobilized on December 13 of the same year. The Institute, however, made application to the War Department for a Reserve Officers' Training Corps unit, and under authority of January 7, 1919, the R.O.T.C. unit was established by Lieutenant James P. Lyons, Infantry, assisted by Sergeant Adam F. Tepper, Infantry.

The R.O.T.C. has had a distinguished history at Drexel. In no year since 1926 have candidates for the advanced course leading to commission failed to exceed the set quota of thirty-five. Applications for the advanced course annually in recent years have averaged about 140. As a result competition is keen, a factor which has made for a consistent rating since 1931 of "Excellent." Since the formation of the Corps well over 400 Drexel men have been commissioned in the Officers' Reserve Corps of the United States Army. The Institute feels that it serves America "both on assembly and on firing line."

HOME ECONOMICS

IT HAS been pointed out in another place how keenly Anthony J. Drexel was interested in education for women, an interest which his wife, Ellen Rozet Drexel, quietly fostered, and which George W. Childs had shared for many years. It is said that Childs helped educate over six hundred young men and young women. He sums up the result of his experience as a sponsor of education in an article written for the *Ladies' Home Journal*. The article, entitled "The Education of Girls," and reprinted in the *Public Ledger Almanac* of 1893, reads, in part, as follows:

The recent founding of the Drexel Institute in Philadelphia, where Mr. Anthony J. Drexel, in addition to the practical benefits offered to boys, proposes to give an opportunity to 1500 girls to perfect themselves in all branches of art, science, and industry, has directed renewed attention to the few instances in this country—and for that matter, in any other—where provision has been made for the education of girls by the endowment of school or college.

In the light of his experience, continues Childs, "Girls, as a rule, respond more quickly to the fascinations of study than do boys." He adds that he has always found gratitude from those he has helped, and that all, to his knowledge, have succeeded in their varied careers, comprising pedagogy, medicine, art, and commerce.

It is general knowledge that Drexel first planned a school for the exclusive education of girls; Depew's tribute to his broad view of education as expressed in provisions made for young women as well as young men has been quoted in a prior section. A charter intention of the Institute was vocational education for women. Instrumentation was provided not only in a general course in what was at first called the Department of Domestic Economy, but also in technical courses for women under the Technical Department in the respective fields of domestic arts and domestic science.

CONSTITUENT COURSES

1892-1900

To the School of Home Economics, or more exactly to the early technical classes for women, goes the distinction of having given the first courses opened at the Institute. The term "technical," as applied to these courses, may be defined as skilled performance in the utilitarian arts.

At a meeting of the Board of Managers in February, 1892, President MacAlister reported the opening of four courses: chemistry, with thirty-nine students; cookery, with fifty-six; dress-making, with forty-six; and millinery, with thirty-one. Cookery, dressmaking, and millinery were all listed in the first year of the Institute under the Technical Department. They were technical in the sense that they prepared young women for vocations in their respective fields. The first day's enrolment fully justified the faith expressed by both Drexel and Childs in women's eagerness for education.

Cookery

The courses in cookery, as first offered under the headship of Miss Helen M. Spring, included a first and second course in cookery; invalid cookery, planned for "professional nurses and persons desirous of acquiring a practical knowledge of cookery suitable to the sickroom," and a normal course for the training of teachers of cookery. So popular did these courses prove that in the following September special cookery classes were added on Saturday morning for young girls between twelve and eighteen, and in 1893 a course in laundry work.

In 1893, a full year's Housekeeper's Course was offered in the "belief that greater skill and intelligence are required in the management of the home, and for the purpose of providing thorough training for women possessing the requisite qualifications to fit themselves for positions as housekeepers and as matrons in public institutions." The Housekeeper's Course offered instruction in cookery, invalid cookery, marketing, and laundry work; lectures on the chemistry of foods, on physiology, hygiene, sanitation, and emergencies; and on business forms and accounts. An

odd course dating from 1893, and persisting until the turn of the century—apparently without enrolment—was a special class for ladies and gentlemen “for instruction in the use of the chafing dish.”

Millinery and Dressmaking

Millinery, under the headship of Miss Caroline L. T. Burgess, began with two courses, to be taken in consecutive terms. They included, to quote the *Preliminary Circular*, “principles relating to the making of hats, bonnets, and toques. These are executed in colored cotton flannel, sateen, and cheesecloth, which represent respectively velvet, ribbon or silk, and crepe.” The second term had to do with materials used in millinery, and instruction in “forms and accounts,” which comprised bookkeeping for technical students.

Dressmaking, conducted by Mrs. Caroline A. M. Hall, offered three courses, in the advanced, or technical class of which “orders for work may be taken by students from persons supplying the materials required, the fitting to be done in the workroom of the Institute.”

Dressmaking, by the following autumn had, like millinery, enriched its course with lectures on business forms and accounts, on the chemistry of textiles and dyeing, and on the history of costume. Instruction here comprised three groups: the technical or vocational group meeting daily; the normal class; and the special, or regular students, who met twice weekly. For dressmaking, certification was granted only upon completion of three courses. Dressmaking was popular from the first; its popularity caused something of a flutter among professional needlewomen of the town. On October 30, 1892, the *Philadelphia Item*, mordant news sheet of the nineties, observes:

Mrs. Winkler is apprehensive that the Drexel Institute will have an injurious effect upon the dressmaking and other feminine trades by teaching wealthy young women to do for themselves what otherwise they would employ others to do for them.

Junior Domestic Science and Arts

Besides the technical courses in domestic arts which fluttered the fears of Mrs. Winkler, the Department of Domestic Economy

offered a more general training for much younger girls, which involved cultural as well as elementary technical instruction both in domestic science and in domestic arts. This course, though announced in February, 1892, was not given until the following fall. Organized by Miss May Haggenbotham as a two-year curriculum, it offered instruction "in everything pertaining to the organization and management of the household."

While practical, its aim was also to "broaden the culture of young women in directions that have been heretofore neglected in their general education." In accenting its distinction from the technical courses, MacAlister's brochure of 1893 states frankly that the course is not intended to fit students for any particular occupation, but to offer a broad preparation for general pursuits, and to form a basis for study in the more advanced technical and normal courses. It included English, algebra and geometry, chemistry, physics, drawing, cookery, millinery, household economy, physiology and hygiene, dressmaking, business forms and accounts, lectures on the chemistry of foods and on dyeing and cleaning, lectures on the history of art, and physical training in the gymnasium. Though directed by Miss Haggenbotham, the courses were given by the regular faculty members in their respective subjects.

The type of training offered by the course in Domestic Economy should appear from the following description of the first closing exercises of the class, quoted in part from the *Public Ledger* of June 15, 1893:

The closing exercises of the class in domestic science took the form of a reception tendered by the young lady members of the class to their friends, held in the spacious classrooms. The course is described as a liberal education, with the household as its centre, and the chief objects are the teaching of proper modes of living and of dispensing social hospitality. . . . The young women had arranged the classrooms for the reception in the most attractive manner. Rugs were laid in artistic positions upon the floor, pictures adorned the walls, and draperies the doorways. Furniture was placed to the best advantage, and everything showed the possession of knowledge in preparing for the reception. Tables laden with toothsome dainties, all prepared by the class, were also in position, and an afternoon luncheon became a part of the reception ceremonies. The gowns of the students were simple and becoming.

To the large number of guests present Miss Haggenbotham, as Director of the Department, assisted by the fourteen members of the class, played hostess.

Consolidation: 1894-1900

Such were the courses given in the charter year of the Institute for benefit of women. Cookery, dressmaking, and millinery for two years preserved the distinction of techniques, the latter two affirming an alliance to applied art, though from the beginning art subjects related to domestic arts were taught within the Domestic Arts Department, and had nothing to do with the fine arts. But by 1894, cookery, dressmaking, and millinery, formerly classified as "technical," joined hands under a new title, the Department of Domestic Science and Arts, comprising three divisional groups: (1) Domestic Science courses, which included a regular two-year normal course and special courses; (2) Cookery, with its two courses in cookery, the invalid course, the housekeeper's course, the laundry course, and a Children's Saturday Morning Class; (3) Dressmaking and Millinery, with normal training. In actual practice little change took place in the operation of the courses themselves, each director having complete charge of her own field.

DEPARTMENTS OF DOMESTIC SCIENCE AND DOMESTIC ARTS

1900-1914

The year 1900 is important in the history of the School of Home Economics. Cleavage of the Department of Domestic Science and Arts into three parallel divisions of instruction was announced. The three formal divisions comprised the Junior Course in Domestic Science and Arts, as always of secondary level; the Department of Domestic Science on a technical level; and the Department of Domestic Arts, also technical. These three divisions of instruction maintained a parallel course until the reorganization of the Institute under President Godfrey.

Junior Course in Domestic Science and Arts: 1900-1914

The Junior Course may be quickly dealt with. As adequate training in homemaking and in the arts and graces the heads of vocational Domestic Science and Arts disclaimed it. An orphan

from the first, it continued an orphan until 1914. By this time President Godfrey's reorganization of the Institute was under way, and with the installation of revised curricula in the School of Domestic Science and Arts, the Junior Course went out entirely.

Domestic Science: 1900-1914

An interesting development in domestic science grew out of the course in home nursing of 1901. From 1892, Drexel Institute had offered special training for nurses in the class in invalid cookery which had been organized for young women attending the Schools of Nursing at the University of Pennsylvania and the Philadelphia General Hospital. In February, 1903, Dr. S. Weir Mitchell and a group of superintendents of the training schools for nurses requested that the Institute establish a year's preparatory course for admission to such schools. Upon approval of President MacAlister and the Board of Trustees, the course was first offered in the fall of 1903. Its purpose and scope as stated in 1904 follow:

The rapid development in this country of training schools for nurses has led of late to serious discussion as to the kind and amount of scientific education which should be given to the nurses in training. The question has been before the American Society of Superintendents of Training Schools for Nurses, and the drift of opinion is evidently in favor of increasing the amount and raising the standard of the instruction given in those studies which might be characterized as auxiliary to the strictly professional training given in the hospitals.

Work in anatomy, chemistry, physiology, bacteriology, cookery, *materia medica*, English, vocal expression, and physical training, was offered. Dr. Albert P. Brubaker, Professor of Physiology and Hygiene, assumed charge, assisted by an advisory committee of physicians and hospital superintendents. Students receiving a certificate were given priority rating for entrance to the leading training schools. The course began with seven students; but in spite of Dr. Mitchell's coöperation and the approval of the State Nurses Association, enrolment was never large and the work was discontinued in 1908. It is worth noting that in 1922 the Institute offered similar special courses. Many enrolled in these classes, but the work was discontinued in 1930.

Domestic Arts: 1900-1914

Prior to 1914, the Department of Domestic Arts, like that of Domestic Science, was not a department in the strict academic sense. Like courses in domestic science, courses offered under domestic arts were vocational. Before 1914 curricular changes were minor, though certain additions may be taken as straws in the wind. At the time a course in costume design was offered, for instance, old Fine Arts was on the way out; and the addition of courses in basketry and weaving in 1914 anticipated—even though by chance—the later transference of certain applied arts to the aegis of home economics. Out of these evolved the present dual major of applied arts and textile economics.

Normal Courses in Domestic Science and Arts: 1900-1914

Courses for the training of teachers formed an integral part of the Drexel program. MacAlister's service as superintendent of the Philadelphia public schools had given him an intimate understanding of the important role that the Institute could play in secondary education. In his *Preliminary Circular of Information*, he announced courses for teachers in domestic economy, cookery, and a special course for teachers of sewing, millinery, and dress-making.

First given in the academic year 1892-1893, the normal course for teacher training in cookery was one year. It comprised all cookery courses, chemistry, physiology and hygiene, and lectures on domestic and public sanitation. To these President MacAlister added lectures on methods of teaching and on the history of education. As early as 1892 announcement was made of provision for practice teaching. A high school education or its equivalent was required, and after 1894 the course was extended to two years for diploma. After 1907 the age limit was raised to twenty.

Normal courses in domestic arts were offered in 1893. By 1895 this, too, was a two-year course, and required students to be eighteen years of age and to have a fair knowledge of hand sewing at entrance. This requirement was raised in 1908 to an age limit of twenty and a high school education. The normal course in dressmaking, after the inclusion of millinery, in 1896, was retitled the Normal Course in Domestic Arts.

Practice teaching was developed from the beginning within the Institute itself, and at guilds, college settlements, church schools and charitable institutions of Philadelphia. In 1894, observation work was extended to Philadelphia public schools. Some of these groups came to the Institute. Senior normal students taught one class for a term. Later, senior students doing satisfactory work were permitted to accept paid classes.

Practice teaching in Domestic Science was in charge of Miss Helen M. Spring and Miss Margaret C. Limerick until 1909. After that time it was taken over by Miss Sarah M. Wilson, who was also the first teacher to receive a formal appointment as instructor in psychology and methods of teaching. In Domestic Arts, normal work came under the administration of Mrs. Caroline A. M. Hall and later under Miss Jennie Collingwood, who made field trips serve both the interests of education and of vocational guidance. Miss Collingwood conducted two trips to New York, guiding students through factories, mills, schools, and stores, and supplementing the out-of-town excursions by observation trips through the textile manufactories of Philadelphia. Since 1905 the field trip has been an important factor in department instruction.

EARLY COURSES IN EDUCATION AND PSYCHOLOGY

The growth of psychology and methods of teaching is closely coincident with that of the School of Home Economics. The Normal Department was never functional; actual instruction was given by the several departmental staffs. The single course in education which, first given in 1892, continued constant to 1912 was MacAlister's "History and Institutes of Education." The "History and Institutes," first course in pedagogy, together with practice teaching, formed the Institute's first courses in education.

Under the Normal Course in Domestic Arts, psychology is listed as having been given as early as 1897, but the first impulse of any account to the growth of psychology and pedagogy occurred in 1907-1908, when Dr. Francis B. Brandt, Principal of the Philadelphia School of Pedagogy, was invited by Professor Gummere to lecture at the Institute. These lectures were not on general psychology in the modern sense; they were simple analyses of human behavior. To quote in part from the *Drexel Echo* of January, 1908:

Dr. Brandt, Principal of the Philadelphia School of Pedagogy, is giving a series of lectures on Psychology, which the Normal classes are finding of much interest and benefit. He has spoken of the province of Psychology, its history, its literature, its terminology, its relation to language, to thought, to action, and to feeling, and now he is touching the teacher's work most intimately by speaking of the teacher herself, the pupils, and various vital school interests.

The work of Dr. Brandt, and later of Miss Sarah Wilson, was supplemented by Professors Witmer, Twitmyer, and Graves of the University of Pennsylvania. By 1914 an instructor in educational psychology had been appointed. Since that time, and particularly since 1920, development of both psychology and education at Drexel has been rapid. However much the work in education and psychology has latterly been extended, the origins of these subjects rest solidly in the long sponsorship of the normal tradition by domestic science and domestic arts.

The normal courses were always successful. Writes MacAlister in 1902:

Our graduates have been sent to every part of the country to establish courses of domestic science and art. In Canada we had the pleasure of inaugurating the movement; and we are now sending a director to the school which the Government is establishing in Toronto for the purpose of training teachers for the public schools of the Dominion. . . .

Six hundred and fifty-five persons graduated from the two-year normal courses between 1892 and 1914. After 1914 these courses were reorganized and the teacher training function became one division of the new School of Domestic Science and Arts.

THE SCHOOL OF DOMESTIC SCIENCE AND ARTS

1914-1922

In accordance with the general plan of this chapter, constituent divisions of instruction within the School of Domestic Science and Arts will be discussed as historically concurrent, and each will be dealt with under a separate section heading. In general it may be said that the trend from 1914 to 1922 was away from the shorter courses and toward the collegiate course of four years, an objective first fully attained in 1919.

The integration of courses within the School of Domestic Science and Arts and the constitution of such courses under title of School, was a clear drive toward President Godfrey's stated purpose—high and uniform entrance standards, and curricula planned toward the degree of Bachelor of Science for graduates of the schools. To this end President Godfrey incorporated under each school a two-year junior course leading to certification and a four-year senior course planned to lead eventually to the Bachelor of Science degree. Single courses and groups of limited scope but proved value were listed under title of "Extension."

Before discussion of the development of the four-year senior course, toward which every administrative policy inclined, note should be taken of the initial two-year course. The two-year normal course of 1914-1915 was arranged to meet the needs of high school graduates who wished to teach, of those who wished to serve as dietitians or managers in charge of purchasing for hospitals and other institutions, and of those wishing to bring to their own homes training helpful in conducting the modern household. This course merits detailed description because it typifies the sweeping consolidations which signalized President Godfrey's administration. Retitled in the following year the Junior College Course, it included much of the work of earlier years, and anticipated every specialized division of Drexel's most recent decade. In its first year it offered something of teacher training, institutional management, textile economics, and general home economics; and with domestic art major in the second year, a beginning of applied arts. It continued the earlier specializations of the MacAlister period; for pedagogy and practice teaching were required, whether the second-year major was to be in the arts or in the sciences of the household.

First announcement of the four-year senior college course had been made in 1915. In the autumn of 1916 this course took form, and though offered at first for diploma, it was clearly planned for degree. The senior course offered four years of work in English, four in domestic science, and four in domestic arts. It offered, also, work in the pure sciences, and in psychology, pedagogy, and physiology. As the state of Pennsylvania at that time permitted two-year certification for teaching, both junior and senior courses

were designed to give training equally adapted to general or vocational use.

With the resignation in 1914 of Miss Spring, so long and so signally identified with the development of the Department of Domestic Science, Miss Edith Baer, her successor as senior instructor and Mrs. Caroline Hall, senior instructor in Domestic Arts, were promoted to full professorships in their fields and charged with the administration of the reorganized School.

Efforts to standardize entrance requirements had been made as early as 1907, but now high school graduation, credit through College Board examinations in June, or Institute examinations in September, were required. The School, its admission requirements of college level and its curricula of collegiate standard, was almost ready to grant degrees. Two years later, in 1917, the Institute won the right to grant degrees of Bachelor and Master of Science in Domestic Science and Domestic Arts. The first degrees were granted in June, 1919.

Dietetics: War Courses for Women

The year 1916 marks the opening of Drexel's first practice house; the year 1919 the reorganization of the School, as part of the general Institute plan, upon a quarterly basis. Third and most important development of the war years was the beginning of what is now an instructional major—dietetics.

Mention of dietetics and the need of applied dietetics occurs in an address by Dr. William H. Bennett in 1893. To the first graduating normal class in cookery, according to the *Public Ledger*, June 2, 1893, Dr. Bennett said in part:

What is the work, young ladies, which lies before you? I answer, first and foremost it is to vigorously demolish the American system of cookery. . . . What is the American system of cookery? It is hard to describe, but here is a sample of it in a bill of fare for a generous breakfast: beefsteak, fried to a crisp; hard-boiled eggs; hot soda biscuit . . . speckled with brown; cold bread . . . of a high specific gravity; soggy potatoes, of a delicate pink and yellow tint; well-boiled coffee. . . . In conclusion, young ladies, I wish you godspeed in the calling upon which you today enter. You are the pioneer class. I have indicated one of the problems which are to be solved with your aid. It is only one of many. The science of dietetics is dawning. You may

lend your valuable aid to its development and make your calling something more than what its name seems to imply. *Your Alma Mater expects you to do your duty.*

Dr. Bennett's ringing close—the accent of Nelson at Trafalgar—is at once a commentary upon the *cuisine bourgeoise* of the nineties and a herald of the new science of dietetics, which, feeling its way slowly, did not until the war and post-war years arrive at mature growth.

The description of the first course in cookery lists work in the general dietetic qualities of foods. For several years prior to 1911, courses in "dietaries" were scheduled though not described in Drexel circulars. In 1911, however, the title of dietetics appears for the first time; in 1912 the following course description occurs:

This course includes the principles of nutrition and the methods of determining the food requirements of normal individuals from infancy to old age. The students are shown how to calculate the 100 calorie portion of a food, and the common foods are weighed, measured, and prepared on this basis. Dietaries are made out by the students for individuals and groups with varying requirements and income.

A brief résumé will show the stimulating effect of the emergency war effort upon dietetics at Drexel. In the course of the twenty-fifth anniversary ceremonies in 1917, recommendation had been made for the national sponsorship of war courses for women. To this end in 1918 the School of Domestic Science and Arts introduced new courses. For Drexel graduates in domestic science with a year or more of experience, and for those of parallel training, the Institute offered a four-months' course in dietetics, a one-year course, and a two-year course. The three were recognized as preparatory to government service by the Hospital Division of the Medical Corps of the United States Army.

In the same year nutrition and dietetics were added to the regular junior college curriculum. The trend toward what is now the general home economics major had begun, though this was not formally offered till 1935. Dietetics proved its stamina. The war had shown the value of the trained dietitian in hospital and campaign. In 1922 two-year dietetics became standardized as a junior course. Its stress was upon cookery, dietetics, physiological and pathological chemistry, and shop practice in dietetics, the prep-

aration and service of food in the Institute dining halls and cafeterias, and in the Philadelphia hospitals.

Miss Helen Wells, an able teacher and administrator, was Drexel's first formal instructor in institutional administration and dietetics. Discontinued as a two-year curriculum after 1923, dietetics is today the four-year institutional administration major.

THE SCHOOL OF HOME ECONOMICS

1922-1941

Dr. Matheson, after his acceptance of the presidency of the Institute, invited Dr. Maurice Biglowe of Columbia University to survey the School of Domestic Science and Arts. Dr. Biglowe advised that the School, in the interest of more functional operation, be renamed and placed under a single head. In the fall of 1922 Miss Helen Goodspeed, now supervisor in the Philadelphia schools, was made director of the retitled School of Home Economics and adviser to women. After a year Miss Goodspeed resigned, and was succeeded in the fall of 1923 by Miss Grace Godfrey, who since 1919 had been Professor of Domestic Science.

Miss Godfrey's appointment in 1919 had ended for Domestic Science a period of changing leadership which began with the resignation in 1918 of Miss Edith Baer. In September, 1918, Miss Violet Ryley succeeded Miss Baer as head of Domestic Science, but remained at Drexel only a month. Then came Miss Alice Bradley, whose brief tenure was from October, 1918, through January, 1919. Similarly Miss Godfrey's advancement in 1923, following Miss Goodspeed's resignation, brought permanence of direction to the newly constituted School of Home Economics. The subsequent trend of the School has been toward the discontinuance of short courses, the raising of admission requirements, diversification of curricula, and the extension of Home Economics education to the graduate field.*

In 1922, the Junior College curriculum had been extended to three years for teacher certification. The offer of electives, nota-

* Since 1922 changes have been made to lend practical application to the broader idea of Home Economics training. Sewing and dressmaking courses were changed in name and content as indicated by the names clothing and textiles and clothing the family; drawing became applied art; dietetics became nutrition. The courses in nutrition, child psychology, child care, quantity cookery, and sociology appeared at this time as requirements for degree.

bly in pedagogy, and of a college provisional certificate, gave incentive to student enrolment in the four-year course. In 1923, the two-year dietetics course was extended to three years for completion, and the senior course was broadened. In 1924, the School of Home Economics initiated the first summer school—not summer quarter—at the Institute, offering summer courses for teachers.

Since 1924 the School has continued to offer courses for teachers in the summer. The essential purpose of the summer school has been to aid graduates of its own two and three-year courses, and to offer similar aid to teachers in winning state certification. This is a needed service as since 1932 the State Department of Public Instruction has not issued such certificates to persons without degrees. The summer school also serves students wishing to work toward either the baccalaureate or master's degree, and those wishing to take special courses in home economics.

Through enrichment of curricula, and through the initiation of its summer school, the School of Home Economics has progressively extended its scope. Breadth through variety of courses and efficiency through integration of courses within special divisions, have been the features of administrative policy since 1919. Miss Godfrey in 1923 delegated specific responsibilities to four teachers of professorial rank.* Thus the development of the related fields in Home Economics was placed under specialized direction.

With the death of Mrs. Hall in 1921 and the retirement of her successor, Miss Jennie Collingwood in 1924, the Institute lost two of its most able and devoted teachers. To Mrs. Hall and to Miss Collingwood many Drexel women graduates accord affectionate remembrance.

MAJOR DIVISIONS IN HOME ECONOMICS

1927-1941

Integration of the four major divisions in Home Economics did not become definitive till 1927. In that year the two and three-year courses had given way wholly to the senior college course.

* Miss Godfrey assumed responsibility for courses in food, nutrition, management, and child care. Miss Ruth Michaels assumed charge of home economics education and practice teaching. Miss Rose Baker was appointed to head courses in institutional administration for dietitians; and Miss Ardenia Chapman had charge of the administration of clothing, textiles and applied arts.

The discontinuance of the two-year courses in favor of three-year curricula in 1922 had given impetus to the growth of the senior college course. Additional motivation to proceed for degree was the announcement of the State Department of Public Instruction that after 1932 it would no longer certify teachers without degree. Graduates of the four-year course multiplied from two in 1925 to forty-five in 1928. Since 1929 all courses with major in the School of Home Economics have been for degree. Hence, the School of Home Economics, free to concentrate upon the senior course, in 1927 reorganized it wholly: freshman and sophomore years became, as they are today, identical for all home economics students. Junior students chose a major in one of the following divisions: teacher training, institutional administration, applied arts, and textile merchandising, the last a new division offered as such for the first time in the year 1929. The four major divisions have continued with little change since 1927 to date. Each will be traced under separate sections, though their progress is concurrent; and to them will be added a fifth division, general home economics, first offered in 1935.

Teacher Training: 1927-1941

The teacher training major is the adaptation of a Drexel-old service to current demands. Education and psychology developed slowly. Since 1914, members of the staff of the University of Pennsylvania had lectured from time to time at the Institute, and in 1922, a policy of reciprocal exchange had been worked out between the School of Education at the University and the Institute. By its terms, Drexel offered home economics courses to University registrants, and in turn enjoyed the privilege of enrolling Institute students in education courses at the University.* In 1932, the state-federal fund which floated the joint directorship was withdrawn; the exchange plan as it relates to Institute and University students, however, has continued in effect.

* During the first year of the agreement, Miss Helen Goodspeed held a dual appointment on both faculties, teaching the home economics vocational education courses at the University and directing the general work at Drexel. She was succeeded the following year by Miss Ruth Michaels, who offered special courses in methods of teaching home economics at both institutions, as well as directing practice teaching at Drexel until 1927, when her successor, Miss Amanda Ebersole, was appointed.

At the Institute, in keeping with changing requirements of teacher certification in Pennsylvania and neighboring states, new courses in education have been added. In 1926, arrangements were made for practice at Radnor and Haverford Township High Schools through programs worked out jointly.

Institutional Administration: 1927-1941

The institutional administration major stems from the development of facilities acquired for instruction in dietetics during the war and post-war period. Though the subjects now grouped to form its curriculum had been given singly at Drexel, it is first described as a curriculum in 1927.

The trend since the formal initiation of the new major has been increasing accent upon the subjects related to domestic science and upon vocational practice work. In 1930, such practice work was required in the summer of the sophomore or the junior year. Of late years, the School has urged those wishing to become dietitians in hospitals to take a fifth or graduate year of training in some hospital approved by the American Dietetic Association.

Applied Arts: 1927-1941

The present major in applied arts grew directly out of the domestic arts course. For many years a part of the curriculum for dressmaking and millinery, applied arts was organized in 1927 as a departmental major.

In 1927 applied arts comprised courses in the history of costume and advanced costume design, textile design, the history of art and decorative composition, interior decoration, mechanical drawing, and pattern study and millinery. Vocational practice in applied arts is provided in commercial and industrial houses. The growth and enrichment of curriculum in applied arts has been rapid.

Textile Merchandising (Textile Economics): 1929-1941

The textile merchandising major appears to have developed out of the teacher training major, for in the academic year 1927-1928 under teacher training a "clothing sequence" of three courses was suggested, and certain courses were grouped under title of cloth-

ing and textiles. The "clothing sequence" appears to have been the genesis of the textile merchandising major, though it does not appear under that title until 1929.

From the beginning, the textile merchandising major, since retitled textile economics, has been closely vocational. In 1934 it is announced as a course for those who plan to enter the merchandising field in retail stores as merchandise counselors, fashion advisers, assistant buyers, personnel workers, and other junior executive positions in retail store organization.

General Home Economics: 1935-1941

An interesting development of the Home Economics curriculum of recent years has been that of a fifth major, general home economics, in 1935. The general home economics major is a non-professional curriculum, organized to serve the needs of those who wish a general course as a basis for homemaking. In it, one sees the renaissance, in fuller, more scientific and modern terms, of the old course in Domestic Economy of the first year of President MacAlister's administration. Demand for general non-vocational courses appears between 1914 and 1935 to have been supplied in part by single courses in extension and in part by the regular two-year course without the requirement of pedagogy. Of the five present divisions of the School of Home Economics, only general home economics requires no practice work.

With the addition of the fifth major in general home economics, the School of Home Economics undergraduate curricula stood much as it stands today. Yet it is interesting to note that throughout a period of sweeping surface change, one may trace clearly in the present divisions a continuation of the original course-divisions of its archetype: the division of teacher education carries forward the work of the old normal courses; the textile economics division stems from the old department of domestic arts; applied arts also springs from old domestic arts; the general home economics major meets once again the need met by the early course in domestic economy; and the institutional administration major combines the old domestic science department and the dietetics courses generally associated with the years of the First World War.

GRADUATE STUDY IN HOME ECONOMICS

1931-1941

In 1931 graduate work was begun in the School of Home Economics. The School was the first of the undergraduate divisions to offer courses leading toward a master's degree, though accredited to grant that degree in 1917. Major groups were, and are, food nutrition, textiles and clothing, and institutional administration. The extension of home economics into the graduate year met a definite need. It has provided for teachers of home economics a means of securing the necessary six semester credits of graduate work required by the Pennsylvania Department of Public Instruction for permanent certificates.

The trend toward more advanced and more selective instruction is elsewhere apparent within the School in provisions not academically graduate, but closely related to the spirit of graduate work. Certain electives of graduate level, for instance, parallel electives in liberal arts colleges. These are called honors electives and are open to seniors of approved standing who desire to work in special subjects.

If the history of the School of Home Economics could be summed up in a few words, the substance would be this: from practical beginnings in dressmaking, in millinery, in cookery, in household management and laundry, and in the short normal course offered to prospective teachers in secondary schools, it has developed slowly to a school of collegiate standing, four of whose five divisions of instruction follow curricula designed for practical professional training. The School of Home Economics has kept pace with the times; it has adapted itself to the modern trend of specialization. But at no time has it lost sight of its Founder's intention—to train women for homemaking. Evidence enough is the importance today of the general home economics major and of those facilities for practical instruction in home management and child care which supplement it. Such facilities deserve more than passing mention; with them and with the provisions offered by the school for guidance, social adjustment and placement the closing sections of this chapter have to do.

PHYSICAL FACILITIES IN HOME ECONOMICS

1892-1941

Beginning with classrooms on the second floor for domestic arts and science, with two kitchens for domestic science on the third, the latter division expanded when, in the following year, the Institute acquired use of two houses on Thirty-second Street. These were joined, equipped with a cafeteria for students and called the Annex. Miss Therese Gregg was organizer and director of Drexel's first cafeteria. Food prepared by the cooking classes was used there, but no quantity cookery was undertaken by students of cookery until 1912. The Annex also provided for the domestic science department a model laundry.

In substance, these facilities remained unchanged until 1902. Though primitive to the modern view, they were not so in 1896:

No matter who she may be, the student in this department must don cap and apron before entering the model kitchen of the classroom. There is little to suggest the ordinary kitchen in this airy apartment, perfectly ventilated and free from all odors of preparing food. A cookstove stands in one corner and a dresser filled with pretty china runs along the wall. The stove is only used for baking, all other kinds of cooking being done upon a simple apparatus consisting of a Bunsen burner with a rose top, which spreads its smokeless flames beneath a metal grill. These miniature stoves are fixed upon flat, roomy tables, underneath which are racks containing the most approved forms of modern cooking utensils.

In 1902, upon the completion of East Hall, additional space became available. In September, Domestic Arts moved to rooms in its third story. At the same time Domestic Science announced that it had three large school kitchens. The same year, incidentally, marks the initiation of the first student house. Further facilities were made available for these departments in 1905, upon the discontinuance of the Art Department.

The Student Houses

Students of the normal domestic science course were first to organize a student house as a coöperative association. Write the editors of the *Drexel Institute Bulletin* of December 4, 1904:

They were generously assisted by friends who contributed in large measure the original equipment. Since its organization this equipment has been maintained and gradually increased by them and their friends until at the present time the house presents a cheery and home like appearance. During the past two years the house has been in charge of Mrs. Darl B. Joyce, to whose wise management its success has been largely due. This year, as usual, the house is filled to its utmost capacity.

This house is for the first time mentioned officially in the *Drexel Catalog* of 1912, and is then said to have been located at 428 North Thirty-third Street. It was not part of the Institute nor under Institute administration in its origins nor in its early years. But it forms the basis of the later organization of "student houses," first announced under that title in 1918. The success of Mrs. Joyce's venture led other women to open their houses to coöperative student use.

The student house was Drexel's initial provision for out-of-town women students in home economics and other courses. In September, 1918, the Institute took over the administration of these houses,* and by 1929 had purchased or leased ten of them. In 1923 Miss Ruth A. L. Dorsey, now Dean of Women, was appointed supervisor.

The Practice House

In 1926 a gift of \$50,000 by Cyrus H. K. Curtis made possible a renewal of the equipment for the School of Home Economics. In the following year the laboratories were renovated and a nursery playschool was equipped and announced for the following September. The old practice house had proved inadequate. A new practice house, at 3315 Powelton Avenue, acquired in 1922, was restricted to the use of senior students who, living in groups of six, did all the work of the household.

In the year 1924-1925 a nursery was equipped in the practice house and an infant was introduced for the first time. The child, under the care of a physician and under the direction of the resident director of the practice house, gave senior students an

* They were splendidly organized in 1918 by Miss Edith Baer. Upon her recommendation and with official Institute sponsorship, each house was governed by a resident social head. Organizational and food problems were supervised by Miss Baer and her staff.

indoctrination to child care. There has been a child in the practice-house family each year since.

The study of the child, and of child care, led naturally to the need of added opportunity for child observation. A beginning had been made by observation in kindergartens during 1926 and 1927; but no adequate provision existed for observation of children from ages two to four. In 1927, a nursery playschool was added in one of the student houses by Miss Bernice Chellis. Miss Myra DeHaven Woodruff succeeded Miss Chellis as director. Between 1929 and 1937 Miss Sara L. St. John was in charge of the school, and was succeeded in 1937 by its present head, Miss Sallie Beth Moore.

Upon the corner of the property adjoining the Van Rensselaer Dormitory an apartment house, also purchased by Mr. Curtis for the Institute, was remodelled for the joint use of the nursery school and the practice house. Under new title, the Home Management House, this successor, twice removed, of the old practice house of 1916 now comprises the nursery playschool on the first floor, home management on the second, and rooms for resident students on the second and third. With the provision of fully adequate quarters, the nursery school became the center of child development courses, and a laboratory of psychological testing for pre-school children.

Such, briefly, is the physical equipment of the School of Home Economics today. As in curricula, so in the nature and quality of equipment, constant progress out of limited vocational or secondary into professional or collegiate levels may be traced. It now remains to indicate their utility in meeting the broadening problems of a changing world.

SOCIAL ADJUSTMENT AND GUIDANCE

The years 1918 to 1935 bridge the period of major specialization within the School. Social adjustment, beginning in the early student houses, found adequate expression at the Van Rensselaer Dormitory. Consonant with more advanced curricula was the need of progressively higher entrance requirements, and means of determining freshman norms. Hence, in 1928, the School of Home Economics, through the division of education and psychol-

ogy, initiated a program of objective testing. Results of these have proved useful both to admission and guidance counselors. Students failing to pass the mathematics test, for example, are offered opportunity to join tutorial classes.

As a guidance aid, the first vocational conference was held in 1937 for all sophomore students, under sponsorship of sophomore advisers. Persons engaged in professional work as teachers, dietitians, and specialists in applied art and textiles are invited to chat with or address the students upon occupational fields open to women. After these conferences each student selects her major.

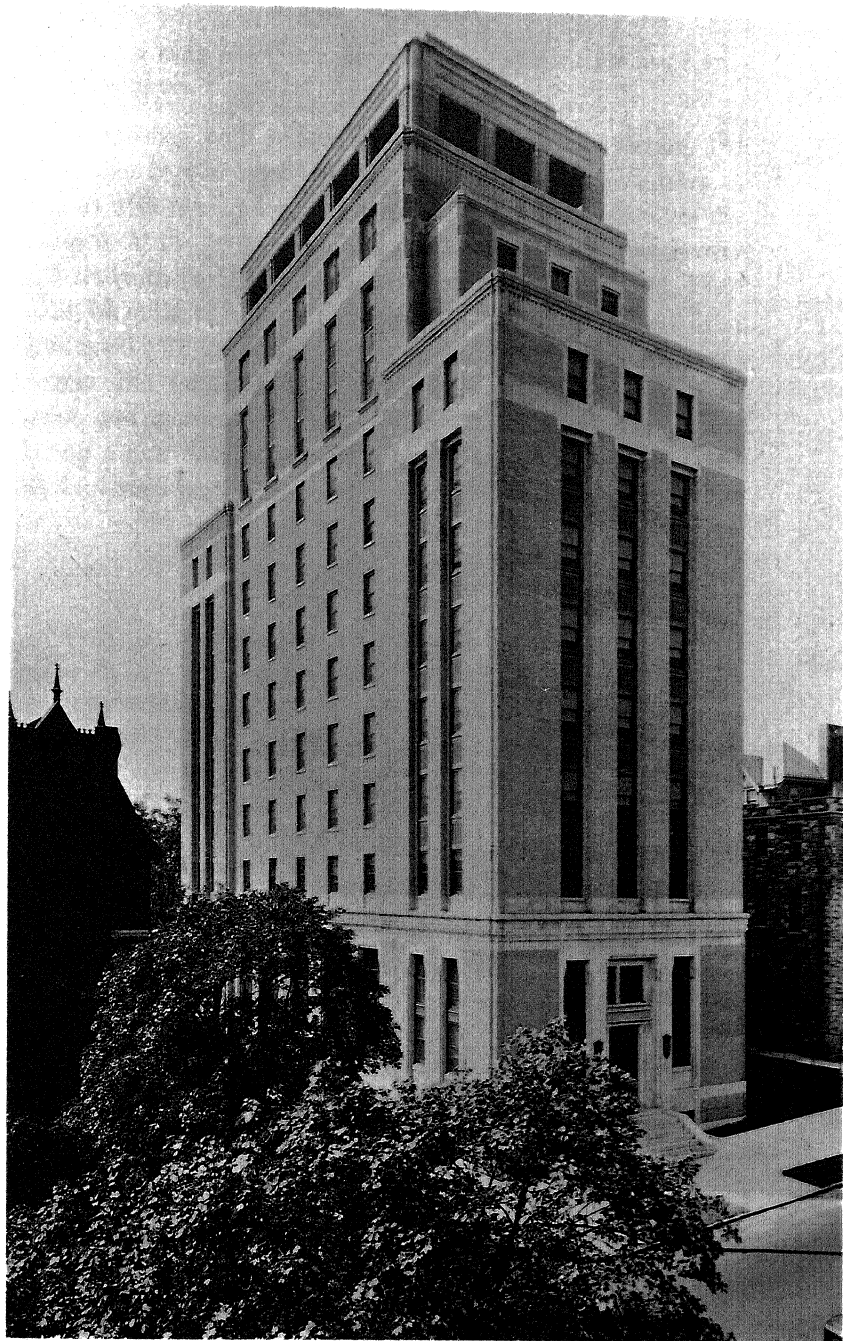
Placement

The need was soon felt for systematized placement of graduates in home economics. A central office handled alumni placement for both the School of Home Economics and the School of Business Administration. In 1929 each school took over its own placement service. The new arrangement brought the vocational progress of the working graduate directly to the attention of those responsible for her training. Since 1933, faculty members have attempted to visit their graduates during the first year of employment, and through knowledge of their problems to revise progressively the Institute curricula. The decentralization of placement has been found satisfactory. Each school of the Institute must keep in close touch with both temporary and prospective permanent sources of employment for its graduates.

HOME ECONOMICS LOOKS FORWARD

To quote from the *Annual Report* of the School for the year 1936:

The ever-changing professional responsibilities being placed upon home economics presents to the School of Home Economics an ever-present need to clarify aims and objectives, and to evaluate results of its educational facilities. This year an extensive study of the curriculum has been undertaken. The Curricular Committee is endeavoring to define desirable aims and objectives for the home economics program and to measure by job analysis, job inspection, and by questionnaire circulation of its graduates, the effectiveness of the present program. The Committee hopes thus to gain information upon which to base recommendations of curricular changes that may seem desirable in



The Sarah Drexel Van Rensselaer Dormitory for Women

providing a more effective undergraduate experience for home economics students.

Not satisfied with self-searching or objective inspection, the School has kept in touch with the experiences of its graduates, as well as with new and proved methods in teaching wherever developed. At the present time the enrolment in the School is over 335 students. In 1940, fifty-one women received degrees. Since 1917, when the right to grant degrees was received, 680 have been graduated with the bachelor's degree and seven with the master's degree. But for all its broadening development, assured enrolment, and increased facilities, the School of Home Economics, facing a new day, remains in all essentials true to its long and distinguished past.

LIBRARY SCIENCE

WHEN Drexel Institute was founded formal education for librarianship had made only a beginning in the United States, though for some years before 1891 the need for such education had been recognized. Growing out of the developing professional consciousness of librarians, the American Library Association was organized in 1876. Three years later Melvil Dewey, originator of the Dewey Decimal Classification system, published an article in the *Library Journal* of May 31, 1879, entitled "Apprenticeship of Librarians." Urging the need of special training for librarians, Dewey wrote:

The village schoolmistress is provided with normal schools by the hundreds. . . . Physicians, lawyers, preachers, yes, even our cooks have special schools. . . . But the librarian whose profession has been so much exalted, must learn his trade by his own experiments and experience. There has not been even a system of apprenticeship.

The article was, in effect, a plea for the establishment of a training school "attached to some considerable library." Dewey also hoped for a system through which leading librarians would consent to receive and train assistants to take charge of other libraries. It was found, however, that few librarians were willing to receive apprentices. Not until 1887, opening date of America's first library school, did formal education in librarianship begin.

Between 1881 and 1885, the newly created Committee on Training Library Assistants of the American Library Association had been making reports or presenting papers which urged formal education in librarianship. The Committee report of 1886 outlined a plan for the opening of a School of Library Economy at Columbia College, to be directed by Dewey, then librarian at Columbia. The school, opened January 7, 1887, was two years later removed to Albany and retitled the New York State Library School. In 1890 a second library school was opened at Pratt Institute in Brooklyn.

THE LIBRARY SCHOOL

1892-1900

The first announcement, in 1891, of the charter Department of the Library and Reading Room, concluded: "A school for the training of librarians will be organized at an early day in connection with the library." On October 20, 1892, Alice B. Kroeger, librarian of the Institute, issued a leaflet announcing that on November first a class in library work would be organized:

The rapid development of the Public Library System in this country has created a demand for skilled directors and assistants which can only be met by the systematic training of special schools for this purpose. The librarian's occupation has become a profession, and an increasing number of educated men and women are taking it up as a life work. Aside from its professional object, the training in library methods is coming to be highly esteemed in a general education.

It is proposed to furnish opportunities for this training in the Drexel Institute, in accordance with the standards which have been established in schools already in existence. The instruction . . . embraces two courses: Library Economy and Cataloguing; with lectures on English literature, bibliography, and the history of books and printing. Students may take both of these courses simultaneously as may be found advisable.

Sixteen years later in an article published in the *Bulletin* of the American Library Association, Miss Kroeger reviewed the development of library training at Drexel. She pointed out the resemblance of the initial courses offered by the Institute to those given in 1892 at Albany and at Pratt Institute, sister schools to Drexel's in 1892.*

In the early years, daily sessions in library work extended from nine o'clock in the morning to one in the afternoon. Classes in library economy met on Mondays, Wednesdays and Fridays; those in cataloging on Tuesdays and Thursdays. The lectures on litera-

* The course in library economy included library handwriting, typing, binding, correspondence, statistics, and material now incorporated in reference and methods. The course in cataloging, based upon the rules of the American Library Association, comprised bibliography and classification. Miss Kroeger and her assistant in the library, Miss Bessie R. Macky, taught all the courses with the exception of that in the history of books and printing. President MacAlister gave this course from 1892 until his resignation in 1913.

ture, bibliography and the history of books were scheduled for the afternoons. The course featured daily practice work in the library of the Institute.

The requirements for admission to the library courses were broad at first. Applicants needed "a good English education, equivalent to the diploma of a high school or college of good standing." Candidates were also required to pass an entrance examination, first given in 1892 on October thirty-first. For 1892-1893 nine students were enrolled, and in June, 1893, nine certificates were issued—five for the full course, two for library economy, and two for cataloguing. After June, 1894, students could no longer register for partial courses; for these courses only six certificates were ever issued.* The success of Miss Kroeger's venture was such that in 1893-1894 two new teachers were added to the staff: Mr. John Thompson, lecturer in general bibliography, and Mr. Carl Lewis Altmaier, instructor in typewriting.

By the fall of 1894 the work of the Institute library had so increased that two additional staff members were needed to carry the regular work of the library and the training program of the Library School. Miss Annie Shedden, class of 1893, was employed to assist in library economy and Miss Adele Smith, Dr. MacAlister's secretary, taught proofreading. To the curriculum were added lectures in current events and studies in contemporary European authors. Bibliography and reference became a separate course. Visits to public and private libraries in Philadelphia and New York were instituted, and the daily schedule of work was extended to four o'clock in the afternoon.

Between 1894 and 1902 alterations in curriculum and procedure were few, but notices of minor changes appear in yearbooks, graduate lists, and items in library publications. Examinations came to be given in the spring; evening classes in languages were opened by the Associated Alumni, and library students were encouraged to attend them; fees, following their usual course, rose steadily; and the curriculum broadened. In 1899 twenty-three students, representing a wide range of states, registered in the Library School. Enrolment had been limited from the start. More

* The roster of the first graduating class of the Library School was as follows: full course, Mary Fornance, Sarah E. Goding, Annie P. Shedden, Rose G. Stewart, Mary I. Thompson; library economy, Lydia Vaute, Katherine Walker; cataloging, Mrs. Emma Styer, Sarah Tatum.

than twenty students overtaxed the facilities of the school. In 1900 a formal limit of twenty was announced.

The work of the Library School in its beginning years was solid, comprehensive, and for its decade fully equivalent to that now being given—a deserved tribute to Miss Kroeger as organizer, teacher, and director. With a decade of work behind it, the Library School could begin to evaluate results. In 1900 Miss Kroeger, publishing in the *Library Journal* a first survey and summary of the school, announced that since its beginning 142 students had enrolled, and that 110 students had been graduated from the full course.

By 1900 Miss Kroeger's place in library education, as well as that of the school she directed, was secure. Her *Guide to the Study of Reference Books*, 1902, enhanced her reputation. This book, which grew out of Miss Kroeger's classes at the Institute, was later revised by Isidore Gilbert Mudge, and in its sixth edition is still the official text of all library schools in the United States, and the foremost guide to reference material in the profession.

A Library School Vignette

An early policy of the Institute, and of the Library School in particular, was to invite celebrities to Drexel. That Dr. MacAlister made the most of his opportunities as host appears from an entry in a diary kept by Miss Virginia C. Castleman, a student in the Library School and authoress of the words of the *Drexel Ode*. Describing the visit in 1898 of Paul Leicester Ford, Miss Castleman writes:

December 21st was a Red Letter Day in library annals. This morning, while we were listening to a talk on 'access to shelves', the door of our classroom opened and in walked our President, accompanied by a stranger, one known hitherto only through the medium of his writings. My thoughts flew at once to Maisie and her lover's diary—*The Story of an Untold Love*. The author stood before us, prince of letters!—just a boyish misshapen figure contrasting pathetically with the finely developed head, the keen dark eyes behind the glasses taking inventory of the students. "I have the honor", said our President, "to introduce to the library class Mr. Paul Leicester Ford. Mr. Ford, you see before you the future judges of your work." Mr. Ford is here

at Drexel for the purpose of seeing the illustrations for his new book, *Janice Meredith*, the work being done by our Art students under the supervision of Mr. Howard Pyle.

Toward a Liberal Background: 1900-1910

From its beginning, the Library School had placed increasing emphasis upon a liberal background, though never scanting the importance of technical skill. By 1900 the curriculum included a course in books and authors, in addition to regular instruction in general bibliography and special lectures on literature. The Institute announcements of this period emphasized the desire of the Library School that its students bring to their studies a broad knowledge of literary history and criticism, and of general history as well. By 1903 the examination for admission included French and German, in addition to the customary sections on literature, history, and current information.*

The trend toward broader entrance requirements in the Library School is expressed by a yearbook announcement for 1906-1907. Examinations for admission were made competitive, with no exemptions for high school or college graduates. Forerunner to the present degree prerequisite was the note that the best preparation for entrance is a college education or its equivalent. In an article published in the *Bulletin* of the American Library Association, June, 1908, Miss Kroeger defended the entrance examination as against the formal college diploma because of the unevenness of work in the colleges at that time.

Responsible for both library and Library School, Miss Kroeger was also active outside the Institute. In 1907 she lectured on bibliography at the University of Pennsylvania, and in 1908 conducted an extramural course in reference work. She strove constantly to forward the library profession not only in Philadelphia,

* Typical of such examinations is the following:

(a) Mention the nationality and century and characterize briefly an important work by ten of the following: Tasso, Marlowe, Ibsen, Maurice Hewlett, LeSage, Balzac, Sir Francis Bacon, Montaigne, Sir Thomas Malory, Lessing, Walter Pater, Taine, Swinburne, Landor, James Bryce.

(b) State briefly what you know of the literary work of each of the following: Sainte-Beuve, Turgenev, Dante Gabriel Rossetti, Heine, De Quincey.

(c) Characterize briefly ten of the following persons: John S. Sargent, Epictetus, Joan of Arc, Aristotle, Swedenborg, Rosa Bonheur, Horatio Nelson, Spinoza, Froebel, Velasquez, Kitchener, Gutenberg, Cranmer, Garibaldi. Locate each by country and century.

but in state and nation. In the spring of 1909, Miss Kroeger sailed for Europe with hope of recovering her failing health. She resumed her work in the fall, but died October 31, 1909.

For seventeen years Alice B. Kroeger served as librarian and director of the Library School of the Institute. Miss Kroeger realized the need of education in library science. She and her associates met that need. But the measure of Miss Kroeger's personal and professional qualities is to be found in the memory and affection of the students she helped. The establishment in 1925 of the Alice B. Kroeger Memorial Scholarship by Library School alumni is their tribute to the memory of a distinguished teacher.

The Library School: 1910-1914

Miss Kroeger's successor was Mrs. Salome Cutler Fairchild, of the New York Library School, who served as acting director until a permanent director could be appointed. In February, 1910, Miss June Richardson Donnelly, sometime head of library work at Simmons College, Boston, accepted the directorship in the second half-year, and Mrs. Fairchild returned to Albany.

Under the new direction of the Library School a few changes occurred. Application forms had to be filled out by persons seeking admission. Experience in typing began to be stressed more than proficiency in library handwriting, and the desirability of prior experience in library work was emphasized. Every accepted candidate was "urged to consult with the director as to the possibility of obtaining some work in an approved library during the summer." At the discretion of the director, such work might even be required for admission. The age limit for students was not rigidly fixed, but other things being equal, candidates between twenty and thirty-five were preferred. Specimen examinations were no longer circulated among prospective students. Estimated expenses were extended to include living, and were stated to be approximately \$400 for the year. Students were, however, urged to make allowances, if possible, for additional costs incident to cultural improvement—for example, in music, in art, and in the drama. At this time, also, the yearbook began to publish an exact outline of the library curriculum by individual courses, with the number of class hours devoted to each course.

In August, 1912, Miss Donnelly resigned the directorship of the

school, and Miss Corinne Bacon was appointed as her successor.* Under Miss Bacon's direction the work of the Library School went forward without significant change, except that, beginning with 1913, library students were required, instead of being merely permitted, to take physical education. Miss Bacon had been in charge of the Library School less than two years when President MacAlister resigned and was, after a brief ad interim period, succeeded by Dr. Godfrey.

Suspension

As has elsewhere been pointed out in this history, Dr. Godfrey, even before assuming the presidency, had surveyed the educational program of the Institute, and had, on the basis of this investigation, concluded that a modification, if not a total reorganization, of that program was necessary. Of immediate concern to the Library School was his early decision that, in the interest of economy, its work be suspended. It is possible that Mr. Horace Churchman, one-time member of the Board of Trustees and president pro tem of the Institute after Dr. MacAlister's resignation, collaborated with Dr. Godfrey in this matter. In an article in the *Library Journal*, April, 1914, entitled "The Passing of the Drexel Institute Library School," President Godfrey's statement concerning the action was printed in full:

It is with regret that the Drexel Institute of Art, Science and Industry announces the discontinuance of the Library School. The reasons for this discontinuance follow:

First: It is the belief of the authorities of the Drexel Institute that the three schools—the Engineering School, the School of Domestic Science and Arts, and the Secretarial School—in which the great body of Drexel Institute students are registered, are all that can be carried to the highest effectiveness with the funds of the Institute, and that in consequence these funds must be devoted to the purposes of these three schools. In this connection it should be noted that of all the activities of the Drexel Institute carried on in the last five years, the Library School cost the most per capita.

Second: The numbers in the Library School are small, and with the Drexel Institute a school primarily for greater Philadelphia, there is

* Like Miss Donnelly, Miss Bacon had been connected with the New York Library School at Albany. After taking a B.L.S. degree there in 1906, she taught in the school until 1910. From 1910 to 1912 she had been chief cataloguer of the Public Library of Newark, New Jersey.

no prospect for marked increase. As this school for the past five years has enrolled but about 7/10 of one per cent of the total enrolment of the Institute, night and day, and 1/7 per cent of the day enrolment, it is felt that the other activities of the Institute, in which the great body of enrolment lies, must be developed first.

Third: The decision has been made that the Drexel Institute shall be a school for greater Philadelphia. As the maximum number of Philadelphia girls in the Library School during the last five years was five, and the average of Philadelphia girls was less than four, the prospect of obtaining for the Library School an enrolment in any way comparable to the other schools seemed hopeless, without the expenditure of an amount of money which would be quite impossible to consider.

The Drexel Institute will continue to take a very great interest in its graduates from the Library School, and will do everything in its power to obtain positions for those graduates, and to follow their careers. It will also be very glad to give any possible assistance to other library schools which it may be able to give.

Immediately following Dr. Godfrey's statement, and in the same article, is Miss Bacon's brief review of the school and its work. Portions of it which do not seriously duplicate information already given may be of interest here:

The Drexel Institute Library School was organized in November, 1892, with a class of ten students. There were at the time two schools already in the field, the parent school in Albany, and that at Pratt Institute. Drexel has graduated 317 students, including two men, who have come from twenty-eight states, the District of Columbia, Glasgow, Scotland, and Kingston, Jamaica—Pennsylvania sending 142 of these. . . . Graduates of certain colleges have been admitted without examination. About one-third of the last two classes have been college graduates. . . .

The present staff includes: Corinne Bacon, instructor in book selection, history of libraries, classification, administration, subject headings, and government documents; Mabel W. Brown, A.B., instructor in bibliography, binding, cataloging, reference work, and library buildings; Stella T. Doane (Drexel '08), instructor in order, accession, loan, and shelf department work and supervisor of practice work; Carl L. Altmaier, instructor in proofreading and parliamentary law. . . . A number of lectures are also given by visiting librarians.

Certificates have been granted to students who have completed satisfactorily the full year's course. Graduates are filling positions as head

librarians, cataloguers, library assistants, etc., in public, school and university libraries from Maine to Oregon and from Canada to South Carolina. One graduate is head of the only training school for children's librarians; one is doing field work for the New York State Library, one is working for the Maryland Library Commission, and several for the Pennsylvania Library Commission.

It is hoped that the school may be carried on elsewhere, but no definite plans have been made. An Alumni Association was formed in 1899 "to promote social intercourse among its members, to advance the interests of the Drexel Institute Library School and to coöperate in the work of the American Library Association." The alumni have raised a fund in memory of Miss Kroeger, the income of which is to be used for lectures for the school. The president of the Association is Miss R. Louise Keller . . . and the secretary, Miss Katherine M. Trimble, Drexel Institute Library.

The suspension of the work of the Library School aroused dismay and resentment in many quarters. The alumni and the library profession at large vigorously protested Dr. Godfrey's action, but protestation failed. The school was closed and did not, as Miss Bacon and the alumni hoped, open elsewhere. Some indication of graduate feeling at the time is reflected in a resolution passed by the alumni and class of 1914 at a meeting held in Atlantic City, March 17, 1914:

Whereas, The alumnae and the class of 1914 of the Drexel Institute Library School are deeply appreciative of the great service rendered them and the Drexel Institute Library School by Miss Corinne Bacon as director of the school, and

Whereas, Miss Bacon by her keen interest, deep sympathy and wise judgment, has endeared herself to the graduates and students, therefore be it

Resolved, That the alumnae and class of 1914 hereby express to Miss Bacon their gratitude, loyalty and appreciation of her successful administration, and be it

Resolved, That the hope be conveyed to Miss Bacon that the school may be continued somewhere under her direction, with the assurance that she has the hearty coöperation and earnest support of alumnae and students.

With this expression of gratitude, loyalty, and hope, the story of the Library School might be concluded. Yet, to what has al-

ready been written about the achievements of the school a more cheerful note on its temporary suspension is added.

Within a week of President Godfrey's taking office a lively correspondence between him and Miss Bacon began, continuing some months. The Bacon-Godfrey letters, sometimes friendly, always mannerly, discussed the relative importance of the library and the Library School to the Institute, the advisability of an inspection of the School by the American Library Association, the relaxation of language requirements for entrance and other methods to attract enrolment, the demand for library education in Philadelphia and the opportunities for graduates in the city, the proper manner of announcing discontinuance of the School, Godfrey's willingness to defend discontinuance, the possible disposal by sale of the valuable collection of architectural and other books, and the disposal by any means of worthless books. Concerning the last, Miss Bacon on one occasion wrote:

Dear Dr. Godfrey:

The two books accompanying this letter are samples of some of the material in the Drexel collection which I am trying to get permission to dispose of. I suppose you have a New England conscience and would not dare lose them.

It does not soothe one particularly to ask for Rowland and Creagmille's "Experiments in Applied Electricity," 1910 edition, to find that the library has only the 1905 edition, although it does own MacDuff's "Bow in the Cloud"; or when asked by Prescott's "Organic Analysis," to find that the library has the second edition, 1889, instead of the sixth edition, 1909, even if it can supply "In Heaven We Know Our Own," translated from the French by A. Lady.

On March 4, 1914, probably in reply to this letter, the harassed President wrote:

My dear Miss Bacon:

Thank you for giving me one good laugh in the course of the day.

Reestablishment: 1922

After June, 1914, the Institute offered no courses in library science. Between September, 1914, and September, 1917, the library itself was directed by Elizabeth V. Clark, a graduate of the Library School, Class of 1900. Miss Clark was succeeded by J.

Peterson Ryder, Director of Physical Education, who resigned as librarian in 1922, becoming Adviser to Men, and later Dean of Men.

Although Dr. Godfrey did not resign from the presidency of the Institute until October, 1921, his intention to withdraw had been announced well in advance of that time. Meanwhile library alumni were working for the revival of the Library School. In April, 1922, Dr. Matheson succeeded Godfrey. On March 24, 1922, at the instance of Miss Mary P. Farr, the alumni petitioned the new president to reestablish the school. President Matheson received their petition and urged the Board of Trustees to act favorably upon it.* In June, 1922, favorable action was taken.

In July, 1922, Mrs. Anne Wallace Howland, formerly librarian and director of the Library School in the Carnegie Library of Atlanta, Georgia, was appointed director of the school, and later, librarian, to succeed Professor Ryder. Mrs. Howland, sometime lecturer at the Library School, came to Philadelphia with knowledge of the history and service of the school whose renewal she was to undertake.

During the summer Mrs. Howland supervised the redecoration of new quarters, the installation of shelving, and the purchase of desks and equipment. Bibliographical and other valuable special collections of the school, dispersed since 1914, had to be reassembled, moved to the Library School shelves, and supplemented with new material on library economy. By September, 1922, the School was ready to receive its first class of sixteen students. During this year Mrs. Howland directed a reorganization of the library of the Institute, marking, rearranging, and bringing the collection up to date.

In 1922-1923 the schools of Home Economics and Library Sci-

On October 27, 1921, the members of the Pennsylvania Library Club had placed themselves on record as strongly advocating the revival of the school.

Prior to March 8, 1922, a meeting of library alumni was held. On that date Robert P. Bliss, Chief of Library Extension Division, Harrisburg, wrote Miss Mary P. Farr, approving such reestablishment on condition that the school be conducted in such a way as to take the highest rank among library training schools.

The date of the petition signed by Miss Farr is March 24, 1922. Dr. Matheson wrote on March 27, promising to "investigate and consider most seriously their important recommendations."

ence issued a joint announcement, which carried the following statement concerning the reestablishment of the Library School:

At the beginning of the World War it was considered best to close the Library School, and it was subsequently reestablished in June, 1922, and reopened with sixteen students on September 25, 1922, under the name of the Drexel Institute School of Library Science.

The school offers a one-year course in library science. The instruction is largely technical, but the broad educational side of the profession is also emphasized, while the bibliographical courses are designed to assist the students in gaining the librarian's technical knowledge of books and authors.

Certificates were granted upon graduation. For admission a high school education or its equivalent was required. A good general education was held to be an essential prerequisite for library training, and college work, while not yet a requirement, was urged as the best preparation. Some library experience and a knowledge of typing were also strongly urged. Entrance examinations were announced for June, and literature, history, general information, and sight translation of one modern language were named as essential subjects.

The courses offered were grouped under three heads: administrative, bibliographical, and technical. Practice work in the Drexel library and visits to other libraries during the spring term carried on the tradition of the earlier school. Attendance at the spring meeting of the Pennsylvania Library Club and the New Jersey Association was announced as a regular part of the course. Attention was directed to the strong alumni association of the Library School graduates, and students were urged to join it.

THE SCHOOL OF LIBRARY SCIENCE

1922-1931

The new school began its career with a strong faculty. In addition to Mrs. Howland, this body included Miss Florence Rising Curtis, vice-director; Miss Marie Hamilton Law, instructor; Miss Sallie B. Kappes, secretary and instructor; and Miss Martha Coplin, now Mrs. John K. Leister, instructor in cataloging. Miss Katherine Trimble, graduate, and capable member of the Institute library staff, also did some teaching.

The curriculum of the school,* according to the detailed descriptions of the individual courses, did not differ markedly from that of the earlier school. Terminology had changed somewhat in the interim, and in 1919 the Drexel school year had been shifted from the semester to the quarterly term, but the contents of the old and the new curricula remained basically similar.

In July, 1924, the School of Library Science, approaching the third year of its work, applied for membership in the Association of American Library Schools, and in October of that year the Institute was visited by a committee of inspection from the Board of Education for Librarianship of the American Library Association. The new school was reported upon favorably, approved, and after the customary interval between application for membership and final action, was elected to membership in the Association in July, 1925. The following year the Board placed the school on the first list of accredited library schools, Drexel being one of the five so designated.

During the middle twenties an increased demand for trained librarians became apparent in Pennsylvania. The demand grew out of a new requirement set up by the State Council of Education that the libraries of all high schools of standard classifications be administered by persons with twelve hours—subsequently eighteen—of professional library training. Partly to help the secondary schools meet this requirement a summer course for library students was instituted at Drexel in 1926.

A significant result of the pressure for further training in librarianship was the change in the requirements for admission to the Institute Library School, announced for September, 1925:

The advance in standards of library work has made it advisable for

* <i>Fall Term</i> <i>Class</i>	Hours	* <i>Winter Term</i> <i>Class</i>	Hours	* <i>Spring Term</i> <i>Class</i>	Hours
Administration ...	1	Administration ...	2	Administration ...	3
Book Selection ...	3	Book Selection ...	3	Book Selection ...	3
Cataloging	3	Cataloging	1	Practice Work ...	12
Classification	2	Classification	2	Printing, Binding,	
Order Accession,		Loan Work		etc.	1
etc.	2	History of Libraries }	1	Reference	2
Reference	2	National Trade			
		Bibliography ...	1		
		Practice Work	3		
		Reference	2		

Drexel to raise the entrance requirements of the Library School, and beginning September, 1925, the holding of a bachelor's degree from a recognized college or university will be made an entrance requirement.

Library Science for Degree

In May, 1927, the State Council of Education granted Drexel the right to confer the degrees of Bachelor of Science in Library Science and Master of Science in Library Science. To date no work for the master's degree has been offered at the Institute. In 1932-1933 the possibilities for such work were studied by a committee of the faculty, but the necessary increase in personnel, in space, and in equipment were deciding factors against immediate initiation of the course for a higher degree.

The Carnegie Grant

In recognition of the needs of secondary school librarians for additional training to meet the new requirements, the Carnegie Corporation in 1926, acting upon the recommendation of the Board of Education for Librarianship, granted the Library School a sum of \$20,000 for the purpose of instituting courses in school library work. The grant paid the salaries of special instructors in school librarianship, and purchased a collection of books suitable for a high school library. Summer work covering a term of six weeks was inaugurated. For such work credit was given, but credit inapplicable to the Bachelor of Science in Library Science degree. High school teacher-librarians and other persons under appointment to such positions were eligible.

In February, 1927, an extension course, given on Tuesday and Thursday afternoons from four to six and open to the same class of students, was conducted by Miss Alice R. Brooks, a member of the regular Institute faculty. Like that of the summer term, this extension work was offered as an emergency effort to help teachers acquire an adequate working knowledge of library methods. It included simple methods of cataloguing, book selection, and methods for teaching the use of libraries. Students who completed the required amount of extension work were given the credits which qualified them for state certification.

In 1931 the fund granted by the Carnegie Corporation was exhausted, but the broadened scope of the Library School program was not immediately curtailed. President Matheson and the

Trustees authorized the continuation of summer courses to be financed by the Institute. Partly because of the depression years, and partly because summer courses in other library schools counted toward a regular degree while those at Drexel did not, the summer registration declined sharply and an operating deficit resulted. Mrs. Howland and her faculty made a careful study of the situation. Summer courses for regular credit were found to be impracticable. Nevertheless, the summer school continued, in spite of financial losses, until 1938, when it was finally discontinued until adjustments in teaching personnel and equipment should make it possible to offer work in the summer equivalent to that given during the regular school year.

THE SCHOOL OF LIBRARY SCIENCE

1932-1941

In her report of 1932-1933 to the President, Dean Howland writes that few changes have been made in the curriculum, since it represents a decade of study and experiment and satisfies the standards set by the Board of Education for Librarianship. At the time of her report the curriculum comprised four divisions: administrative, bibliographical, technical, and historical. Courses were taught whenever practicable by socialized recitation, by individual conferences, and by visual methods. One-fifth of the forty-five credit hours were devoted to practical work in various libraries.

Since 1932 basic changes in the educational program of the school have been few. In 1931 before Dean Howland's survey, the admission requirements of two months' experience in library work was dropped. German was added as a desirable knowledge, though not as an absolute requirement for entrance. In 1933-1934 the courses in order work and lending systems were combined to form the course now called library methods. Study was made of the project method in use in the Denver Library School, but it was discovered that this method could not be adopted at Drexel without an extension of the present course.

In 1936-1937 lecturers were invited from the faculties of the Institute and the University of Pennsylvania, to present the bibliographies of their especial fields of interest. Sociology, educa-

tion, the fine arts, the useful arts, science, and literature were thus descriptively covered. This experiment was, of course, an expansion of the long-established visiting lecturing program of the Library School. In 1936-1937 the faculty decided to give the basic minimum essentials of the library course in the fall and winter terms, and in the spring term to offer electives in special phases of librarianship, such as college or public library practices, work with the reading needs of young people, advanced cataloguing, and bibliography.

In 1939-1940 special courses were inaugurated for working librarians and other employed persons desirous of training for librarianship. Conducted by the regular faculty on Saturday mornings and on certain afternoons, these courses are equivalent to those of the one-year curriculum. A recent official statement concerning this successful innovation follows:

The work is so planned that a student who completes an average of fifteen term units per year may finish the course in three years. The degree of Bachelor of Science in Library Science will be conferred upon those who meet the full requirements of the course. Candidates for the degree must be graduates of recognized colleges or universities and must satisfy the regular requirements for admission.

THE LIBRARY SCHOOL LOOKS FORWARD

In December, 1936, Dean Howland retired and was succeeded by Professor Marie H. Law, who had been a member of the first faculty of the reorganized school. In continuous service from 1922 until her appointment, Dean Law has contributed much in the way of constructive suggestion to the solution of administrative and curricular problems.

In 1936-1937 the school was inspected for the Board of Education for Librarianship of the American Library Association by Mr. Joseph L. Wheeler of The Enoch Pratt Library, Baltimore, and Mr. Keyes Metcalf, Head of the Reference Division, New York Public Library. Both reported favorably, but pointed out the serious handicaps from which both the school and the Institute library suffered by reason of lack of space and consequent crowding. The possibilities for future growth in both of these divisions of the Institute depend upon a solution of their physical problems. This is especially true of the library—and only slightly less so of the Library School.

THE EVENING SCHOOL

THOUGH something of the quality and spirit of the Institute during its first administration has appeared in sections treating of the Day College and its Schools, the Evening Diploma School preserves the spirit of the earlier Drexel in direct line of descent. The Evening School trains, as MacAlister's Institute trained, at the highest non-theoretical level short of degree. It responds with the same adaptability in offering special courses to meet immediate special needs. It has been the matrix of administrative innovations which, adapted to day instruction, have made possible at least three of the four professional curricula for degree offered by Drexel today.

What has been said is not meant to imply that the day curricula slowly followed the lead of the Evening School. From 1892 to 1922 a single faculty and single administration served both Day and Evening Schools; from 1892 to 1914 no serious attempt was made to differentiate evening from day instruction. What has been said does mean that certain experiments in course arrangement, applied first to evening classes and limited by the conditions of evening teaching, found larger scope for development with day students who have always been in a position, as evening students have not, to give full time to class and laboratory work. The administrative idea men of Drexel's middle years, notably Henry V. Gummere and Arthur J. Rowland, taught both day and evening classes. If their ideas found broader scope for development in day than in evening teaching, this is owing to differentials inherent in time and enrolment factors of the Day and Evening Schools.

Opening on October 18, 1892, the Department of Evening Classes, as it was then entitled, offered instruction parallel to that of the Day in almost all departments. Evening classes were open to both men and women. As with other major divisions of instruction, one sees an initial groping toward policies, the gradual formulation of traditions and precedents, the maturing of curricula,

and the periodical resurgence of proven devices as parallel needs demanded parallel solutions. As repeatedly appears, in other connections, there have been few later policies which are absolutely new or which lack at least partial precedent in the administration of MacAlister. Drexel has been fortunate in finding administrative heads of broad capacity and far vision. That the evening classes as originally planned differed, in the public mind, very little from day instruction is evident from a report of the Guild and Evening Classes of the New Century Club for 1891 as noted by the *Public Ledger*, February 10, 1892:

After two years of experiment of trades classes, and having graduated last year twenty pupils in millinery and fourteen in dressmaking, the remaining classes will be transferred to the Drexel Institute, where they will be able to carry on their studies with greatly increased facilities and advantages. Thus the Drexel Institute will take up the work begun by the Guild of the New Century Club and that of other kindred useful bodies, and supply instruction of the highest practical value to their pupils. . . .

The Drexel Institute will not only furnish instruction of the highest value for those who have had the benefit of the classes in the Guild of the New Century Club and kindred bodies, but it will also make a central gathering place for the meetings of all who are engaged in work of this kind, and managers, committees, and teachers will find in its courses of lectures much that will be of interest and value. Its halls and lecture rooms will be freely given for the monthly gathering for conference and coöperation advocated by the New Century Club, Committee on Guild and Evening Classes, thus doing its share to help all city societies working for the same good purpose, teaching and helping women to become self-supporting, to economize effort by trying to pull together. . . .

This supplies also an example of the voluntary transfer of privately undertaken classes to the Institute by reason of the general recognition accorded its superior facilities. The recruiting of such groups later became a fixed Institute policy, and since 1919 the recruiting of students from industrial concerns by contact promotion has been a powerful factor in providing increased qualified enrolment. It is a notable instance of the early reputation of the Institute, for it will be observed that this decision was made a full eight months before the formal opening of evening classes.

EARLY EVENING COURSES

1892-1898

On November 8, 1892, President MacAlister formally reported to the Board of Trustees that evening classes had begun in various branches of instruction with an enrolment of 336 students. Courses listed by the *Public Ledger* of October 18 were drawing (freehand, from the antique, life, and mechanical), decorative painting, modeling, woodcarving, stained glass, mathematics, bookkeeping, stenography and typewriting, chemistry, physics, shopwork in wood and iron, cookery, dressmaking, and millinery.

According to news accounts, work actually began October 25, and classes in mechanical drawing, bookkeeping and commercial calculations, stenography and typewriting, mathematics, millinery and dressmaking were filled to capacity. At the same time, a course in architectural drawing was announced. Men and women were about equally divided. Courses were, of course, taught by regular instructors of the Institute. As of October 25, 1892, opening date of Evening Classes, Lieutenant William L. Bailie, Director of the Department of Mechanic Arts, entered upon his duties as superintendent. Thus began the first year of evening instruction at Drexel Institute, enrolment growing during the six-months' session to 754, of whom 630 or seventy per cent remained in the classes at the close of the session.

The first closing exercise of the Department of Evening Classes took place in the Auditorium on March 30, 1893. Before a large attendance of students and friends—the Founder, Trustees and faculty on the stage—MacAlister delivered an address which at once tacitly admitted certain limitations inherent in Evening School instruction, and pointed the way to future expansion.

The chief difficulty of evening classes is in keeping up the attendance. I have known too long and too well the difficulty under which young men and young women, who have been at work all day, labor to expect too much of them. I can say from my very large experience the attendance here has been larger than I have ever known. . . . The instruction is as thorough as any in the land. The instructors are those who teach the day classes, and often they have worked here from nine o'clock in the morning until six or seven at night, and then returned to

put in two hours in the evening classes, and often at the self-sacrifice of social pleasures. . . . The whole difference between the dressmaker who makes five thousand a year and the one who makes three hundred a year is skill. A man is respected just in proportion as he is independent, and this is true of women, and they only are self-respecting who are self-supporting.

The strong accent upon evening instruction for women in the early years of the Institute expressed the Founder's insistence upon equal opportunity for men and women in the Day School. Three hundred twenty out of the total enrolment of 754 were women. Oddly enough, in the first year of evening instruction engineering courses as such appear to be wholly absent. Two hundred certificates in all were given; but these amounted to little more than records of attendance, or promotion cards of admission to advanced classes the following year. Pointing the way toward expanded curricula, President MacAlister declared, "It is Mr. Drexel's wish that the people of the city should receive the full benefit of the work of the Institute. There will be added chemistry, applied electricity, woodcarving, stained glass, cookery, and the gymnasium. There will be lectures given in the science and art of the various industries, and there will be continued the organ recitals."

Engineering

Enrolment of the session 1893-1894 doubled, owing very largely to the addition in this year of subjects allied to engineering: building construction, machine construction, benchwork, and electricity. Other subjects, as announced by MacAlister, were woodcarving, cookery, chemistry, physical culture, economics, and English. Lieutenant Bailie reported that every department in the Institute was represented in the evening work except blacksmithing and woodwork.

The welcome accorded engineering subjects is described in a letter from Arthur J. Rowland, dated January 8, 1934. On October 1, 1893, the first announcement of evening classes in electricity had been made. "I sat at a table in the Great Court and at once was surrounded by a mob three to four rows deep." He writes that he organized two courses, one for men with slight education, another for those who had had some mathematics and physics.

Rowland, faculty member of the Institute from its second year, and a powerful personal and organizational force in its history, recognized in that early discrimination of the two courses the necessity for pure science as a preliminary to engineering training. As late as 1906 one finds a short lecture course in electricity and one in chemistry offered concurrently with the longer curricula in these subjects. Such shorter courses were found consistently unsatisfactory. The ultimate solution came after 1904, when Rowland and Henry V. Gummere, Professor of Mathematics, worked out a plan of pure science prerequisites to engineering courses.

A second early policy sponsored by MacAlister and his assistants which made for rapid enrolment was that of inviting conventions and industrial groups to inspect the facilities of the Institute. Thus began the cultivation of industrial relations, since a major policy of the Institute. For women students, departmental teas and entertainments made for good will and fostered what, after the extension of certain evening curricula to four years in 1906, came to be known as the "Drexel habit."

Commencement for the evening classes of 1894 was held April 2, before the usual large audience. MacAlister presided and addressed the students, a program of music followed, including organ pieces by Dickinson, selections by the Banjo Club, a duet by two women students—holders of the Mrs. John R. Drexel scholarships in choral music—a report on the evening work by Bailie, and an address by the Reverend William Bodine. As usual at both the Day and Evening commencements, the work of classes was on exhibition in the rooms and in the halls and Court, and received the admiring inspection of visitors, families, and friends.

Extension of Curricula

Begun experimentally on a basis of short curricula, the Evening School by 1894 was well on its way toward extended curricula. Enrolment for this year, as elsewhere noted, had more than doubled. A breakdown of enrolment for the various divisions of instruction is informative. Art classes, comprising elementary drawing, drawing from the antique, life class, and clay modeling, enrolled 57 men, 47 women; decorative painting, 18 men, three

women; woodcarving, nine men, three women. The Business Department enrolled in its commercial course 97 men, 30 women; in its stenographic and typewriting courses, 36 men, 61 women. This ratio, closely paralleled in the Day School, is an index of opportunity in business for women at that time.

Under Domestic Science and Arts, cookery enrolled 39, dress-making 62, and millinery 29. Under Mechanic Arts, which lists as its subjects architectural drawing, pen and ink rendering, building construction, electrical engineering, machine construction, mechanical drawing, and mathematics, the total enrolment stood at 199. The largest registration in this group was that in mechanical drawing with 73; second, with 44, was electrical engineering. It appears that early Mechanic Arts of the evening classes comprised without much discrimination both engineering and architectural branches. The Science Department, including mathematics, physics, and chemistry, enrolled 102 men and nine women. Thirty-nine men and 34 women enrolled for evening physical training; 28 men and 20 women for English; 19 men and 11 women for economics. The last three were at the time and continued to be minor instructional divisions.

Total enrolment in the second year of the Evening School was 1570, of whom 787 were men and 783 women. This figure, less 431 women and 164 men from the choral classes and the Drexel Chorus, leaves a vocational enrolment of 623 men to 352 women, a total female enrolment averaging about three-fifths of the male. With the general acceptance of the present-day Evening Diploma School as one of exclusively male enrolment for technological training in engineering and production, it is a little hard to realize that until the twenties enrolment continued mixed, although it is true that the ratio of women to men had from the early years progressively diminished.

In this year, an interesting feminine parallel occurs to the present limited provision for transfer of evening students to day instruction. Let it first be said that in the early years of the Institute, transfer did not involve the problem of credit evaluation out of secondary level into collegiate. Recommendation was made that opportunity be given evening students of the intermediate grade in dressmaking to enter the day classes and take up advanced work of the third grade. "This would give them the advan-

tage of all instruction in this department excepting business accounts and chemistry." It was carefully stipulated, however, that the course was specialized and would not entitle them to the Institute's diploma. The suggestion of transfer from evening to day reappears throughout the history of the Evening School. Professor Gummere contemplated this for a time, but apparently no consistent policy was ever evolved. There was again some talk of it during the years 1919 to 1924 when the Institute enrolled a large number of disabled veterans for the Federal Board; but not until 1938 was actual provision made for college credit in the Evening School, and a fund established to implement such transfer.

Architecture

Instruction in architecture, offered from the first year of the Evening School, was at first under the Department of Mechanic Arts. It is of interest to note in connection with architectural drawing that John J. Dull, its instructor, suggested as early as 1894 that "a class be started for builders' clerks in the taking off of quantities and making estimates from architects' drawings. In England this is made a separate branch of the business, the person doing it combining the work of a sworn measurer with that of surveyor."

Architectural courses comprised not only drawing, but building construction, pen and ink rendering, and shortly thereafter a laboratory for testing tensile and breaking strength of materials. In architecture as in engineering the need of pure sciences as preliminary was keenly felt; notable among the problems of the early Evening School was the unwillingness of technical students to undertake advanced work in mathematics, physics, and chemistry. Mr. Dull's suggestion that a class be started for builders' clerks like that in use abroad is a striking example of the Institute's alertness to progressive trends. A modern counterpart is the present policy of the Evening School administration in promoting for America a national accrediting body for non-degree technical students like that so successful in England.

It was architecture that first drew together related courses and insisted upon pure science prerequisites, a policy which anticipated the "group courses" developed at a later date by Professors

Gummere and Rowland. Repeatedly in the early reports of the Evening School, reference is made to the difficulty of finding students with adequate background to pursue advanced courses. To quote from an Evening School report dated March 30, 1894:

In organizing this first class in building construction, the fact most noted was the lack of preliminary mathematical training on the part of a large number of the applicants. It was found practically impossible to obtain students from the desirable sources (that is, from those employed by architects, structural engineers, construction establishments, builders, and the like) who had any mathematical training beyond that involved in the process of addition, subtraction, multiplication, division, and very elementary algebra.

Not merely about building construction but about all technical divisions during the Evening School's first decade, the plaint is constant.

The solution, arrived at slowly, was the cultivation of employer and industrial relations which, practiced in a desultory way during the first fifteen years, became after 1907 a consistent and major policy in Evening School administration. To the building construction courses are owing two further innovations: first, a testing machine for compressive and tensile tests and one for transverse tests—the beginning of Drexel's test laboratory for civil engineering; and second, upon the further recommendation of Professor Howard S. Richards, in charge of the course, extension of curriculum by another year with recommendation for a certificate for credit as distinct from attendance. This recommendation was Drexel's first step toward a certificate for proficiency.

Since the principal deficiency of technical registrants was lack of training in the pure sciences, in the fall of 1893, courses in physics were made consecutive to cover two years, mathematics was added, and the two subjects were made prerequisite to electrical engineering. In evening, as in day instruction, the Science Department came quickly under the aegis of engineering, and was made prerequisite to it.

Further recognition of limitations inherent in evening teaching occurs in the report upon mathematics for this year:

The work done by the elementary class is about equivalent to the first year work in the Mechanic Arts course: while the work of the ad-

vanced class has been in the same lines as the second year of Mechanic Arts. It is to be noted, however, that the standard of the work is not, in either of these classes, equal to that of the day course.

In closing his report, Bailie comments in a way that illustrates the rapid maturing of Evening School administrative policy, and foreshadows Drexel's future course of slowly extending curricula and granting of standard certification.

Many of the students of the first term returned to take up their studies where they had left off and to continue in the more advanced work. . . . At the enrolment in October in consequence of so many persons applying for admission, and their educational attainments so varied, it was deemed advisable to fix some standard of admission, and to subject the candidate to an examination. . . .

There have been awarded 503 certificates to those students who have been regular in their attendance and who have shown suitable proficiency in their studies. All who have received the certificate have signified their intention of returning next term for more advanced work. Some of these will go into the third year and necessitate the organization of new classes for work of a higher grade. . . .

With the experience of the past two years, I think we can now mark out a definite, practical course for some of these evening classes that could be completed in three terms. The limited time at our disposal for this evening work would make it impossible to give the same thorough and scientific training of the day classes, but the remarkable progress made by these evening students in the two terms has clearly demonstrated what we can accomplish, and I am very sure that some complete practical course could be given with great benefit to these deserving students.

The practice at the Institute had been to issue certificates to the students as record of attendance and promotion, not evidence of proficiency. Instructors hesitated to issue them because of non-uniform definition of standards. Each department defined its own. Writes Bailie, "As I understand, the certificate is simply a testimonial that the person is a member of the evening classes and a worthy student, and not intended at all as a certificate of proficiency in any of the arts or trades. Nor should any attempt be made to use it for such purpose. I would recommend that before the end of the next term this matter of certificates be more clearly

defined, and some uniform system for their issue be adopted by the several departments."

Registration and examination of students were very haphazard. Of this, Bailie writes:

. . . I . . . suggest . . . that a printed circular for each department be issued, fully setting forth the studies in each course, and the educational requirements for admission to the class. The date of the examinations should be given. . . . The issue of a circular . . . will relieve the Secretary of a great deal of unnecessary work, and will . . . be of assistance to the instructors in the enrollment.

Such was the lack of standardization in the beginning years.

Certification for Credit

The year 1896 marked at least two major departures which taken together look toward the integration of evening curricula known as "group courses." The trend toward grouped courses appears in various departments, notably in the Business Department, whose report for 1896 contains the significant statement: "By grouping courses, some of which are complete in one and some in two years, students are permitted to become candidates for certificates, but certificates are granted only to those who meet all requirements of both attendance and examinations." Thus the certificate had become not merely a memo of promotion, but an evidence of acquired skill.

The second development appears in the architectural courses, for which a new policy was being defined which looked toward a departmental incorporation of all architectural classes. Writes Mr. Dull:

It is recommended that the plans now being formed for organizing the architectural classes as a department should be carried out, as the said plans provide for the devoting of a much larger proportion of time to the teaching of each of the special branches of architectural work. . . . The general scheme for the new classes under the new order would be to require a certain standard to be determined by examination for entrance to each of the classes and an examination for proficiency in the work at the end of the term; and that on the satisfactory completion of such examination a certificate be granted for each of the separate branches taught; leading finally to a diploma on the completion of the course.

One sees here a division of evening curricula assuming sequence; one sees a plan for the extension of time; one sees provision for certification of single courses or course sequences, and for diploma as testimonial that all architectural courses have been completed. To evening architecture, therefore, is owing credit for the initial diploma idea. Both prerequisites and course offerings were expressly stated. For entrance, an applicant must pass an examination in free-hand drawing from the cast of simple elementary solid forms, must show proficiency in the use of instruments, and understand projection and intersections. This admitted the student to the first year of work which comprised two nights of two hours weekly in the study of perspective and classical orders. Completion of the six-month term and examination led to a promotion card entitling the student to enter the second year's work—historical ornament and the study of general architectural styles. Successful examination entitled the student to enter his third year work in problems of architectural design. On completion of this course, a certificate of proficiency in architectural drawing would be given. A class in house construction was also planned as a separate and special class with a final examination leading to a certificate of proficiency. Apparently, under Mr. Dull's plan, the two certificates entitled the student to a diploma.

A further recommendation which offers precedent to the present practice of enlisting men active in business as Evening School teachers, appears in the following quotation: "It would be of great benefit could a series of illustrated lectures from the history and development of architecture be given during the term, the students being required to attend, and it is possible that further benefit might be derived could we interest some of the principal architects of this city and have them give lectures on the different branches of this art." Other recommendations by Mr. Dull related to the formation of a museum and an architectural library to be situated on the same floor with other rooms of the department. No better example can be found of the systematic functional use of fine arts accessions for training in practical skills. Good precedent and sound theory as the pathway to specialized techniques have been from early years the Drexel approach.

Other events which signaled the year 1896 were the rapid growth of instruction in electricity under Professor Arthur Row-

land, the first regularly constituted classes in economics, and an evening class in the planning and decoration of public buildings, memorials and churches, given by Nicola D'Ascenzo.

The year as a whole was marked by the gradual extension of curricula, English constituting an important feature of the evening classes, and by this year constituting a three-term, or three-year, course of instruction for certificate. Within four years, therefore, evening curricula had become fairly set, some beginning had been made in standard entrance examinations, and at least one major subject, architecture, was offering consecutive courses for diploma.

GROWTH AND INTEGRATION

1898-1904

By 1898, the Evening School had grown beyond the experimental stage. Yet there remained a number of major problems to be solved, and in the evening classes particularly rapid enrolment was a difficult factor. First of all was the difficulty of inducing students to undertake adequate preparation for technical courses in mathematics, chemistry, and physics. This difficulty arose chiefly out of the lack of adequate entrance requirements, from the fact that each department, being an autonomous body, set or did not set requirements, and that each issued its own enrolment and registration blanks. The Institute as a whole was still a school of departments, and its courses were held to be sufficient in themselves. Another factor, and one which has remained almost constant throughout the history of the Institute, was increasing pressure for space.

So urgent had become the need for space that by 1901 it compelled the erection of East, now Randell, Hall. But not until 1904 were the other major problems solved. In the interim, speaking generally, course-content matured, many one-year courses were extended to three, and three-year curricula extended to four. It was during this time that Commerce and Finance was extended to a three-year course which, together with a three-year course in stenography and typewriting, put evening commercial work upon a permanent basis and led to a standard certificate. This period, too, is marked by the gradual growth of architectural and technical subjects and the attenuation of classes for women. In 1900

occurred a minor precedent, first in water-color rendering, later adopted in surveying and subjects requiring additional time: a Saturday afternoon class.

It has been repeatedly and truly urged that from its beginnings the Evening School, though vocational, frequently offered non-theoretical instruction of fully collegiate level. Early evidence of this is manifest from an analysis of enrolment for electricity made in 1900: "Among the students there were six graduates of our Mechanic Arts course; one from machine construction; one graduate (Civil Engineering) from Lehigh University; one graduate (Mechanical Engineering) from the University of Pennsylvania; and one Captain of the Imperial Russian Navy." Today, as then, evening instruction is offered upon a high level of training in the most contemporaneous subjects. The service it offers is not only training for the untrained, but specialized intensives for highly trained theoretical men.

The year 1901 witnessed practical steps begun for adequate preliminary training and the formulation of a policy that looked toward the establishment of advanced courses. Architecture took the lead in establishing a preliminary class as prerequisite to entry upon actual architectural courses. By this year, too, intensives called "special courses" were a regular part of evening instruction, and were planned apparently for specific industrial and business needs but not pursued for certification. This policy has been another of frequent resurgence in the history of the Evening School.

Rowland, writing in this year of the necessity for an extended curriculum, affirms: "I regret . . . that nothing has been provided in the evening class work as an extension of the purely electrical work of Course II [in Electricity]. I find once more that a number of men expect to go into the correspondence school as the only available means of reaching a comprehensive knowledge of Electrical Engineering. I . . . feel this to be not only a lost opportunity in evening class work, but that it is not fair to the students. We have had to turn them adrift with only a one-sided knowledge of Engineering matters." Bailie, in his summary, points out that the most prominent feature of the evening classes for 1901 was increase of enrolment. Pursuant to recommendations variously made, he writes:

I hope we may see our way clear for the organization of an evening class in such Mechanical Engineering studies as are necessary to complete our evening course in Electricity. A knowledge of certain principles in Mechanics is absolutely necessary to an Electrical Engineer; the students realize this, with the result that they are trying to get this knowledge from the correspondence schools and other sources. There is no reason why it should not be a part of our Electrical course, either contemporaneous or post-graduate. . . .

This year we have revised the exercises and other work of the Mechanical Drawing class. As far as the limited time of our evening work permitted, we have adopted a line of graded exercises similar to that used in the day course. This has been very satisfactory, but we now see that it is not possible to do what is necessary in the two years—hence it is recommended that this course be made three years.

Many problems had been solved by the turn of the century; but many others of major importance remained to be solved. Roughly, the line of cleavage between the experimental school of separate courses and what might be called a school of integrated courses occurred in the year 1904-1905. By this time the student body was no longer wholly recruited from Philadelphia and the immediate vicinity. The *Drexel Institute Bulletin* of November, 1904, referring to numbers of out-of-state students, reads as follows:

It is worth while noting that 262 students living outside of the state attend the Evening Courses. These come chiefly from New Jersey and Delaware, the immediate environment of the city. . . . Last year a student residing in New Jersey spent nearly two hours each evening on trolley cars and ferry between the Institute and his home. He had attended for two sessions and had lost but one evening on account of a blizzard which made the road impassable.

Within the limitations of the strict technical school, the Institute Evening School of 1892 to 1904 stood unsurpassed. Here courses were short and individual; training was specialized and vocational. Well-staffed, well-organized, with an enrolment of good preparation and high credit, the Evening School stood upon the threshold of a fresh and more closely integrated administrative and instructional policy.

GROUP COURSES

By 1904, the future engineering bias of Evening School instruction had become well defined. In order of popularity were the

several divisions of engineering and chemistry. It has been shown how, little by little, first in architectural courses and later in engineering, consecutive curricula had begun to form. Director Bailie, however, made little attempt to systematize evening instruction. As in the Day School, departmental business was largely left to the department. Aside from some attempt on the part of architecture to indicate that all related certificate courses had been taken, by the grant of a diploma, a clear distinction between certificate and diploma was not yet defined. Entrance requirements, registration blanks, and evaluation of skill by examination varied departmentally. The credit of integrating related but separately given courses and for designing and establishing a fairly uniform quality for the Evening School belongs very largely to two men, Professors Rowland and Gummere. Both men were endowed with exceptional organizational gifts, and were personally congenial. Their constant and unflagging efforts were jointly directed toward some form of systematic coördination of the school as a whole and at the same time the preservation of the traditional autonomy of Drexel's various departments. It is high tribute to them, to MacAlister, and to their colleagues that working selflessly in the interests of the Institute, they succeeded in both. The group courses which these men sponsored were not things of immediate growth. There are certain other developments in Institute teaching indicative of trends to be considered first.

In Commerce and Finance the trend was toward higher standards. Professor Parke Schoch, reporting in 1905, writes: "For the first time we have conducted a course in expert accounting, the prime object of which has been to fit the student to pass the examination of the State Board of Examiners of Public Accountants. . . . It may be interesting to note that this is the first systematic course preparing for these State examinations offered by any institution in Pennsylvania." It is of interest to today's reader to note that since that date accounting has been constant in the evening curricula and that today it is offered as a separate diploma group.

The report of this year also contains reference to practice teaching by day students in the evening classes. Miss Emily Swett, director of Domestic Arts in the evening, ends with the following comment:

I cannot close without a word of commendation for the cheerful assistance given to the work in the classes by the Senior Normal students as practice teaching, without whom we would not have been able to enroll the present students, while others are still on the waiting list. . . . While at times these student teachers are often weary from their own studies in the daytime, these faithful young women have come to the classes, bringing with them an inspiration to the betterment of each other, realizing that while the object, self-support in either case, was the point to be gained, they were receiving the larger share by giving of themselves and their time.

Another interesting note, this time from machine construction stands record that, in 1905, "for the first time a complete machine has been built by the evening class. This we have in a drill press intended for use in the forge room, and which will be placed on exhibition." That this ingenious method of self-accretion was duplicated in the day classes, which shortly thereafter presented a second drill, is evidence of the close parallelism between day and evening instruction at that time.

Most telling and most important of all developments of this year, however, is the first evidence of Rowland-Gummere collaboration. The proposal by Professor Gummere to consolidate all mathematics given into three years instead of the four formerly required is accompanied by the flat assertion that the primary function of mathematics in the evening session should be preparatory to engineering and science. Indeed, science courses appear to be working in harmony at this time, as chemistry under Professors Congdon and Henwood and physics under Bailie expressly state their function as preparatory to engineering and deplore the limitations of available time. The report on engineering presented by Rowland deserves treatment in full, foreshadowing as it does so much of subsequent Evening School administrative policy, and offering as it does a panorama of that engineering division which, together with architecture, applied arts, and business courses related to engineering, now comprises the Evening Diploma School. Accordingly a paraphrase of this report follows:

Rowland's Report of 1904-1905

The plan of enrolment for 1904-1905, to allocate a number of evenings for conference with prospective students before formal

enrolment begins, has been satisfactory. Inquiries and applications for engineering have been made by 232 men, many of whom were sent to classes in mathematics, physics, machine construction, and mechanical drawing. Among ineligible were some who would have been glad to stay if they could have joined classes in arithmetic. "It sometimes seems to me that it would be an excellent thing to have a course in Arithmetic. . . . There seems to be no place except the evening public schools where arithmetic can be learned. . . ." Rowland adds, "By far the greatest number of men who come here do so because some friend has told them of our courses. Hence I believe it very important to have students now in the classes know thoroughly well about all the work done here so that they may feel not only the benefit of their own course, but have a personal interest in all the various lines of study which are taught in the Institute."

Doubtless, the necessity of turning away insufficiently trained students was the motive for the subsequent establishment of those preparatory classes which are so important a feature of the Evening Diploma School today. Again, even as early as this, Rowland seems to have recognized the value of enrolment promotion by word of mouth as a developer of the "Drexel habit" of attending year after year.

In electrical work, continues Rowland, the classes reached the limit of enrolment—largely because laboratory space and equipment at the time limited sections to eighteen or twenty. The exception he makes is among men in a special course, the telephone course. It appears from other sources that this course, its equipment donated by the Bell and Keystone Companies, was conducted in part by telephone company executives, an early example of enlisting evening faculty from men active in industry during the day. In mechanical engineering, Rowland continues, classes are near capacity. An analysis of enrolment in engineering courses is informative, because it shows the degree to which admission had already become selective. It is also illuminating as an occupational cross-section of the evening student body.

ENGINEERING ELECTRICITY

Applications, 65; students enrolled, 38; attendance (av.), 30; possible graduates, 6.

Clerks, 11; electricians, 18; draftsmen, 6; laboratory assistant, 1; elevator man, 1; machinists, 2; salesmen, 2; wiremen, 2; mechanic, 1; electrical apprentice, 1; civil engineer, 1; bookkeeper, 1; pattern maker, 1; solicitor, 1; laundry, 1; mill, 1.

STRENGTH OF MATERIALS

Applications, 34; students enrolled, 22; attendance (av.), 16; possible graduates, 8.

Draftsmen, 12; journeymen machinists, 3; machinist apprentices, 3; assistants in testing laboratory at Pencoyd, 2; clerk in office of manufacturing plant, 1.

TELEPHONY

Applications, 35; students enrolled, 30; attendance, 6 dropped.

Twenty-seven actively engaged in telephone work; 10 by Bell and 17 by Keystone.

MACHINE DESIGN

Applications, 18; students enrolled, 15; attendance, 14; possible graduates, 10.

Clerk, 1; salesman, 1; draftsmen, 6; machinists, 5.

APPLIED ELECTRICITY

Applications, 60; students enrolled, 46; attendance (av.), 35; possible graduates, 26.

Contractor, 1; wiremen, 3; electricians, 12; cutter, 1; electrical apprentices, 2; lithographer, 1; employee of Penna. Railroad, 1; clerks, 8; printer, 1; employees of Phila. Electric Company, 3; newspaper route, 1; draftsmen, 3; machinists, 2; steam engineer, 1; commission agent, 1; janitor, 1; driver, 1; elevator operator, 1; lumber business, 1; superintendent of printing works, 1; glass cutter, 1; photographer, 1; electric meter inspector, 1; dental motor manufacturing business, 1; Phila. Fire Insurance and Protection Bureau, 1.

STEAM ENGINES AND BOILERS

Applications, 25; students enrolled, 23; attendance, 19.

Mechanical draftsman, 1; salesmen, 2; engineers, 3; assistant engineer, 1; machinists, 6; draftsman, 1; firemen, 2; bookkeepers, 2; electrical machinist, 1; electrician, 1; lithographer, 1.

In the light of so many occupations and so many educational backgrounds, the problem which confronted the Evening School at Drexel at that time—a problem which confronts all evening schools then and now—becomes apparent. First was the necessity

of a provision for bringing general student preparation into some uniformity. Second, as evidenced by Rowland's next move, was the need of a clearly arranged public announcement to guide applicants in integrating the instruction they chose and to inform them of existing course facilities. The idea was initiated and the announcement prepared by Professor Gummere. Continuing, Rowland writes:

The reason for the arrangement shown is to be found partly because requests are made for certain courses which we do not now seem able to present to the applicant in a satisfactory way, and partly because a great many men come here in the evening who want to take more or less complete engineering courses. This can be therefore made available to them by stating requirements definitely for each particular subject we give and allowing the men to select from among the whole list of subjects such as they prefer or are advised to take. One of the important things is to have the various lines of work arranged to occupy as brief a time as possible with a view to fulfilling the actual needs of the men who take it. It is partly with this in mind that the change in the mathematics arrangement has come about, something which concerns me because so many men take mathematics who afterward are coming into the engineering work. As I have already told you, the plan contemplated has been talked over among the members of the Faculty who are concerned in it and this in the presence of Dr. MacAlister.

Rowland points out that courses immediately related to engineering—he cites mechanical drawing—have hitherto been conducted as a kind of work which is absolutely separate and distinct from any other kind of work. “In connection with the engineering work I think we have come to the place where we must either have better preparation for evening engineering subjects made by the people who take care of the drawing work, or we will have to follow the lead in Drawing some years ago.” As a result of insistence upon uniform preparation, and the listing of related courses, the realization of group course policy needed only a step. Other constructive recommendations made by Rowland were for the early release of advertising matter and provision for a one, two, three payment plan.

Bailie's general summation of the progress for this important year reads in part as follows:

Each year brings an increased number of applicants for the Engineering subjects, who come to us in all stages of preparation for the work. The Science and some other courses have been so arranged that the necessary preparation for admission to the Engineering classes may be acquired by the applicant. While the results have been satisfactory, there has been the drawback of the length of time required for this preparation. Professor Rowland in his report makes some suggestions by which this time can be shortened and the student better prepared to take up the Engineering work. To do this it is proposed to give special preparatory courses in mathematics, chemistry, physics, and mechanical drawing. I think it possible to save a year to the student by this arrangement, and I strongly recommend its trial.

It was at this juncture, when preparatory work was neither avowedly preparatory nor entirely curricular, and when on a basis of syllabus the students were permitted to form their own groups, that Professor Gummere recommended the close integration of certain naturally related subject courses for a "group" certificate. It is with the initiation of the group plan, with its set and uniform entrance and registration requirements and its sequences of instruction that the Evening School enters its modern phase.

The Group Plan

It was in the latter part of the year 1906 that Professor Gummere began to advocate group courses. The year before, a formalized announcement had been made by Professors Rowland and Gummere, with the approval of Bailie, of logically related subject courses. The group idea went one step further. Its premise was the offering of consecutive courses in consecutive years whose sum would comprise all major subject courses related to training for some specific vocation. Group subject courses led to the group course certificate and diploma. Professor Gummere, advocate of the plan, was invited to take charge of evening engineering classes. As the result of his policies, group courses for certificate were systematically organized.

In 1907 the engineering and architectural courses absorbed well over half of the total evening enrolment. Professor Gummere was asked, in addition to his administrative duties, to take over civil engineering until another suitable man could be found. By late 1907, Gummere, in his dual authoritative function, working

closely with Professors Rowland, Starkey, and Creagmile, had brought the Evening School under the group plan. The keynote of his policy had been to introduce system and uniformity into evening instruction. It was he who made uniform admission blanks, not for one course, but for the entire evening school. It is incontestable evidence of the value of his services—uninterruptedly continued—that through the development of group curricula he built up the Department of Mathematics alone from a total enrolment of 154 in 1905 to 650 by 1917. Writing as of March 31, 1907, Gummere reports that attendance is improving because increased fees have insured the enrolment of only those students who are in earnest,

and the new idea, just introduced into the Engineering School, of the "Group Courses" gives the students a definite goal to aim for, and so keeps them up to their work better. Besides these chief reasons, I think the use of the printed Absence Postals, one of which is sent to each every time he is absent, has had a good effect by impressing the students with the idea that they are carefully looked after, and their absences recorded. . . . The absence postals have brought replies in almost all cases, and these show the following three chief reasons for dropping: (1) Illness. . . . Fully four-fifths of the losses are due to this cause . . . ; (2) Extra night work. . . . ; (3) Removal from the city.

The innovation of absence postals is broadly significant because, though apparently the idea of follow-up was originated in the Engineering and Science faculties, it came to be applied generally throughout the evening curricula. The results tabulated as the reasons for absence were selected through a system of promptly mailed postal cards to absentees. They disclosed a relatively large number of cases due to serious illness and to the natural disadvantages inherent in attending school after a day of full-time employment. It is noteworthy that the number of men who dropped from lack of interest or inability to carry on was very slight. Absentee follow-up in itself has proved a valuable device for enrolment stabilization.

A further important development of 1907 was provision for placement. To clarify what the Evening School was doing in the way of employment, it is best to quote from the report of mechanical engineering subjects by Professor L. Cheston Starkey.

From very early years, some form of recommendation for qualified students was general. Writes Starkey:

This year, an attempt was made to establish a sort of employment bureau. A list of the students seeking positions and advancement was kept, and when inquiries came in from any firm desiring young men, it was called to the attention of the eligible ones among this list. Although there were not so many who were directly helped to better positions thereby, it seemed to have a good effect and placed us in a better relation for the future with several firms, as evidenced by the correspondence received, and shows that this is a line of usefulness along which greater developments are possible in the future.

It is to the credit of successive Evening School administrations that the opportunity here stated has never since this time been neglected, and that advisory service in placement has been a major point of the present administration.

Starkey closes with an interesting commentary upon the group courses:

. . . the establishment of the group courses seems to have had a very good effect in answering many difficult questions that have bothered in the past, and has given a definiteness to the work for many of the students, inasmuch as it has planned out a certain scheme of studies or goal toward which they may steadily and constantly work their way. The full effect of this influence will not be felt for another year or so, as it manifests itself this year largely in the preparatory work in chemistry, physics, mathematics, and engineering drawing. To a certain extent it seems quite likely that the establishment of the group courses has temporarily had the effect of lowering the average tone of some of the engineering classes, since it has influenced some of what otherwise would have made the most desirable students in certain engineering classes to begin a little lower down and lay the general broad foundation for a more comprehensive technical training. This is a disadvantage which will disappear in another year and ultimately become a decided advantage because of the better scientific preparation and foundation the man will have laid.

Professor Starkey's comments after the first year of experiment with the group courses show at once the rapidity with which they were matured and the immediacy with which they were accepted; and are evidence, besides, that after fifteen years of conservative experimentation, the Evening School—indeed, the Institute—had

found a formula not merely for admissions, but for systematic instruction at a level sufficiently uniform in all related courses to warrant a certificate of proficiency. The year 1907, to summarize, marks the emergence of Drexel above and beyond the status of technical school in the strict definition of the term. The subsequent course of the Evening School, as is now well known, has been extension of curricula and conduct of courses at collegiate technical level, though for certificate or diploma, as its instruction is of less than collegiate theoretical level. In the Evening School, group courses were originally formed; in it uniformity of entrance requirements was initiated; in it preparatory classes were first offered for those informally trained but elsewhere qualified.

THE EVENING SCHOOL

1907-1918

The establishment of group courses in the Evening School resulted in immediate increase in enrolment, necessity for additional faculty, a systematic arrangement of single courses into curricula with stated requirements, progressively advanced instruction, and certification which meant not merely attendance, but proficiency and skill. The group course idea, therefore, was the foundation of today's Evening Diploma School.

Writes MacAlister in a letter dated March 26, 1908: "Nearly all the students attend for at least two years, and large numbers spend three and four years here, taking quite advanced scientific and technical work." That the status of the certificate soon became fixed is evident by another letter dated October 8, 1909: "No diploma is given for the evening work, but for any special work in the Institute a certificate is granted."

In 1908, Gummere and Rowland began actively to solicit employer aid in bringing students to the Institute. A letter from one John Hinkson of the Delaware County Trust Company, to C. C. Van Riper, instructor in the Business Department, dated September 26, 1910, is an early instance of results through contact promotion:

We beg to acknowledge the receipt of your favor of the 21st inst. in reference to the course at Drexel Institute. We thank you for your courtesies and the interest you have shown. It is our intention to have

four of the younger employees of our title department register in your department. We have informed them and they can take up at once the work of the two years with a view to completing the full course within one year. We will send a check from the office to cover all fees and expenses.

Then, as in many instances they do today, employers not only sent employees to Drexel for further training, but defrayed fees. Van Riper, writing to Professor Altmaier of the Business Department four days later, referred to the men of the Delaware County Trust Company and mentioned also clerks of the Commonwealth Title Insurance and Trust Company and two from other title companies, with the expectancy of enrolling four more from the city survey bureau. Some of these had been sent by their employers, for Van Riper notes that their bills of tuition should be sent to the Commonwealth Title Company, "with the others." Employer contacts and mutuality of service have thus been a long and continuous tradition at the Institute, and are policies pressed with vigor by the administration today.

Throughout the period 1907-1918, one sees continuous expansion of curricula, particularly in Engineering; and the progressive attenuation of course subjects planned for women as evening enrolment of women dropped. In 1909, Thomas Smith succeeded to the superintendency of the Evening School following the resignation of Lieutenant Bailie; but administrative policies changed but little during his tenure.

With the coming of President Godfrey, Professor Gummere was to assume the headship of the Evening School and was formally appointed Director by Trustee action on September 17, 1914. Gummere, working closely with Rowland, since 1913 Dean of the Faculty, at once embarked upon the execution of long cherished plans for a program of promotion based upon non-duplication of service—a policy that has proved to be of profound benefit to the Institute throughout the subsequent course of her history. Really systematic promotion at Drexel owes its beginning to these versatile and tireless men.

One of their first and most important steps was to increase the length of the evening session from the original six months to eight, the term running from October to the end of May. The time extension, by providing opportunity for instructors both to intensify

training and include more material, to the same degree aided the students in accomplishing far more than under the old six-month term.

Almost at once, too, they directed their activities toward the guarantee of non-duplication of instruction with other schools in the Philadelphia area. To promote this idea, they called a meeting of representatives of all evening schools in the city—the public evening schools, the Wharton School of the University of Pennsylvania, Temple University, the Y.M.C.A., the Spring Garden Institute, the Franklin Institute, and Girard College. Out of the meeting grew the Industrial and Technical Education Conference of which Rowland was first president and Gummere first secretary. An outgrowth of the Conference was the decision to enter upon an aggressive campaign of joint advertising, Drexel's first campaign of this nature. The Institute both reaffirmed and extended her policy of not duplicating instruction available elsewhere, a policy constant and active today. Drexel dropped certain of its architectural courses, to cite two instances, in favor of Temple, which had better facilities, and referred students interested in auto mechanics to the Spring Garden Institute. This policy of non-infringement has been a powerful factor in forming the high average of Drexel enrolment and establishing throughout the Philadelphia area that priceless intangible, good will.

Another fundamental promotional policy planned with a view to closer liaison between Drexel and the industries of Greater Philadelphia was contact with business men at monthly luncheons. Recognition of the importance of contact work appears to have grown out of Gummere's trips to Boston and New York, centers of evening instruction. Gummere, finding from his study that a system of employer-sponsorship existed at the Pratt Institute, immediately initiated one at Drexel. Drexel's contact with the Philadelphia Electric Company, to cite only one instance, has been notably successful. Today, as then, this company, once an employee is accepted, is notified of the initiative of their man. Like many other companies, the Philadelphia Electric pays full tuition for these and deducts in small amounts the cost of that tuition from the employee's salary. These deductions are refunded to students who pass their courses. The encouragement of employer-sponsorship is a basic administrative policy of the Evening School

today, and a successful one. It is a high tribute to the quality of instruction and administration of the Evening School today and yesterday, and evidence of the permanence and value of their reciprocal service that no such sponsor has been lost and that the list grows longer with the years.

The feature of Drexel's twenty-fifth anniversary was President Godfrey's convocation entitled "The Service of the College to the State." Professor Gummere undertook a parallel service in calling school representatives to consider what service the secondary schools could offer to the nation. Out of this meeting grew the School Mobilization Committee with Franklin Spencer Edmonds as its chairman. This organization formed the nucleus of the subsequent Department of Labor of the Commission of National Defense of the State of Pennsylvania, with a state appropriation of two million dollars. The original object of the School Mobilization Committee was to do for the secondary schools what the present Director of the Evening School, W. T. Spivey, is doing for the colleges as Regional Coördinator of Engineering Education today. Gummere classified schools according to their facilities for offering technical training, and undertook to direct the right students to the right schools. Drexel participated in this, as the Drexel Day College is offering short technical or pre-technical intensives at the present critical time.

The year 1918 lost to the Institute the services of Dean Rowland; and in the same year Professor Gummere resigned to devote his entire time to the School Mobilization Committee. The joint contributions of these two men to the Institute are not easy to overestimate. Of kindred educational philosophies, personally congenial, and both gifted organizers, they did much to systematize and methodize enrolment in the Drexel Evening School, to make uniform its standard of instruction in all divisions, and initiate an absentee follow-up system. It was they who organized the group courses, perhaps the greatest single service to the Institute prior to the adoption of coöperative courses in the Day College. It was they who worked unflaggingly to establish closer liaison between the Evening School and the mercantile establishments of metropolitan Philadelphia. To them the Institute owes a systematic beginning in advertising promotion, and the final achievement of non-duplication in instruction through a congress composed of all

major evening schools in the Philadelphia area upon a coöperative agreement. To these two men, also, is owing the public recognition and acknowledgment of the importance of out-of-town student enrolment, and a plan to keep constantly before such students facilities for part-time instruction not of Drexel merely, but of all schools of excellence in Greater Philadelphia.

THE EVENING DIPLOMA SCHOOL

1919-1941

The development out of groups for certificate to today's Evening Diploma School, with curricula in engineering, business, and architecture, was a reaffirmation of Drexel's purpose to offer practical training at collegiate level, but admittedly with less than college theory. It was decided, after a careful study of other evening engineering schools offering degree upon completion of eight or nine years' study, that the number of students in a position to enrol and continue for degree was everywhere too small a percentage of the whole to justify emphasis upon theoretical training. A careful survey also showed clearly that the basic need both of students and of business and industry was thoroughgoing training of a nature which would make the employed man more valuable in a practical way.

The method of this determining survey followed the proved pattern of contact promotion. Changes incident to the war years made urgent a revaluation of curricula already established at the Institute with a view to cutting and amending them to fit post-war needs. Accordingly the newly appointed director, Willis T. Spivey, called upon local industrialists, tabulated his findings, and on a basis of these findings an advisory committee was formed for each type of engineering and architectural group. Leaders in industry served on these committees, eight of them trustees of the Institute. Working jointly, the Evening School administration and members of the advisory committee formulated the curricula of what became, through a gradual extension in time and diversification of courses, today's diploma courses, all of which now extend from six to eight years.

Carrying Drexel's policy of non-duplication a step further, the new Director persuaded about eight outside schools to discontinue

industrial or institution-sponsored courses which could be better served at the Institute. Of these, the technical schools of the Y.M.C.A., the General Electric Company, the Philadelphia Electric Company, and the Franklin Institute were examples. Students referred from these schools to the Institute began the increased enrolment which has since reached its high of 1941, 3,370, with 500 on the waiting list.

In addition, Director Spivey worked with technical schools under the Philadelphia school system, and arranged with them to omit duplication of instruction at Drexel. A reciprocal agreement was then entered into by which they referred to Drexel evening school students for whom the Evening School had better instructional facilities, and in return, Drexel recommended to them students whom they were in a better position to teach.

By 1922, the dual contract under which the day faculty taught evening classes was dropped, as under it the Director of the evening sessions exercised only divided control over his faculty. The policy since has been to employ as many of the Day College faculty—today about one-fifth—as the Evening School can absorb, employing other specialists in theoretical subjects from the Philadelphia school system and from men active in Philadelphia business and industry, the stipulation being in the case of the latter that the man practice professionally the subject he teaches. Thus, the Evening School faculty since 1922 has been made up of regular college and secondary school teachers and of men from industry who know by practice the technology of their subjects.

By October, 1920, Evening School enrolment was in excess of 2,000, and offered courses for men and women students in accounting, salesmanship, real estate, secretarial studies, transportation and traffic, statistics, business English, business law, economics, and introductory courses in stenography and typewriting. Engineering courses included mechanical, electrical, structural, highway engineering, surveying, chemistry and metallurgy, and introductory courses in mathematics and physics.

Gradually, courses for women were discontinued because too many other schools were doing similar work. Indeed, since the organization of the Evening Diploma School in 1919, the School has never graduated a woman in a woman's course; though a few women have graduated in courses for men. Equal opportunity

for women to enrol, however, has been a constant policy of the Evening School from its beginning in 1892 to date. Ten women are enrolled in Evening School courses today.

The year 1924 marked a point of interest in the Evening School story. In this year, some 250 young men and women received diplomas, among them forty-six men disabled in the World War who had received technical training through aid from the Veterans' Bureau. An amusing incident that brought much applause, according to the *Public Ledger* of May 29, 1924, was the form of salutation used by Dr. Matheson, "Lady and Gentlemen!" when, among the many men, Miss Irene Williamson received her diploma in accounting, the first such evening diploma ever granted to a woman at the Drexel Institute Evening Diploma School.

This year too, marks the initiation of the first regular summer evening school, begun not as a summer school toward diploma, but to clear the records of prospective or actual students who needed further training before formal entrance upon diploma courses. Though elementary courses, particularly in mathematics and the sciences, had existed for years, the first curricula preparatory to the regular diploma courses were initiated in 1920. The Evening Summer School was intended to aid students requiring such preparatory work to complete in the summer as much of it as possible in order to enter regular diploma courses in the fall. It is still today preparatory and supplementary in nature.

On June 10, 1924, the Evening Diploma School announced another service which was, in principle, a resurgence of the early special-course provision. Under the plan, any group of employees of a particular industry could receive in the Drexel Institute Evening School specific training in desired skills, supplemented by training in kindred subjects and accredited for special diploma or certificate. The stipulation to such special groups, then and today, was that entrance requirements and tuition be equivalent to those required for regular Drexel Institute Evening School diploma courses. Such courses may be given in any subject related to engineering, or business from the operation end, or in architecture.

The depression years of 1929-1932, though marked by a slight falling-off in Evening School enrolment, affected the total only slightly. In 1931 the Evening School offered out-of-town classes in Chester, Pennsylvania, which were continued for three years.

Provision today exists for such extension service if and when the need arises. In 1932, to aid prospective students who had been seriously affected by the depression, Mr. Alexander Van Rensselaer agreed that from a balance originally pledged toward the construction and equipment of the Men's Grill, one-half should be applied and converted to a loan fund for use of students of the Evening School. Thus, through Mr. Van Rensselaer's generosity the first loan fund for Evening School students was begun.

Unique Features of the Evening Diploma School

Notable in connection with the program of offering broadened cultural opportunities to Evening students was the provision made in 1933 by George W. Childs Drexel, son of the Founder, for an annual presentation of a gold medal and engraved certificate with a cash award, known as the Mary S. Irick Drexel Award, to an alumnus of the evening session, for exceptional merit and continued activity in Institute affairs. Further provision was made in this year by Mr. Drexel for the services of a teacher to conduct a seminar in economics available by courtesy to fourteen alumni of the evening session. To students interested and adept in the theoretical field of economics, facilities for attending evening classes have been generously extended, so that the scope of Mr. Drexel's original gift now comprises post-diploma courses open to a limited number of Evening School alumni. More recently, courses for technical graduates in need of specialized post-graduate training have been added. President Parke R. Kolbe, writing in the annual report of 1933-1934, offers the following note:

The activity of the Evening School in initiating courses for graduates is particularly significant. While the Evening School's regular undergraduate technical institute work is among the most important contributions of Drexel to the educational activities of Philadelphia, it must be recognized that this community has a very large number of technically trained men, graduates of colleges and technical schools, who are desirous of continuing their education, not necessarily for the purpose of securing a graduate degree, but particularly in order to stay abreast of the times in the new developments of science and technology. This aim it is the intention of the Evening School to meet in the courses for graduates now offered and to be offered in the fu-

ture. The response in registration to the courses to be given in 1934-1935 shows plainly the importance of this new field of endeavor.

A third unusual opportunity exists in the evening-day transfer provision. Henry V. Gummere, as early as 1915, had hoped for some arrangement by which a student of the Evening School could transfer to day instruction for degree but the opportunity never offered. Some announcement was made of evening courses for college credit during the war years 1917-1919, but not until 1938 was actual provision established for such transfer in exceptional cases. In the Minutes of the Board of Trustees dated May 19, 1938, the following resolution appears:

RESOLVED: that the Faculty and Trustees of the Drexel Institute of Technology adopt a plan by which a very limited number of selected students, graduates of approved high schools, who have satisfied the entrance requirements of the Day School and who show outstanding ability in the first year's work of the Evening School may, after completion of an additional four quarters of special work above the first year (i.e. after at least two years and a quarter in the Evening School), apply for admission to the Day College. The Day College reserves the right to admit only a limited number of such applicants and the privilege of transfer cannot be guaranteed to any individuals in advance. It would be unjust to students entering the Evening School to lead them to believe that the way is automatically opened to them for transfer to the Day Session, since only a few of the most outstanding students can be accepted for such transfer. Students desiring to work for a degree are advised, whenever possible, to enter the freshman year of the Day Session in the regular manner.

On June 19, 1938, instrumentation for such transfer was provided through a contribution by the Director of the Evening School, and an equal contribution by Mr. George W. Childs Drexel. This money has been set up as a loan fund in the name of the Evening-Day Transfer Loan Fund. By its provision, an employed student who desires to work for degree has the opportunity of spending two years in the Evening School until he is in position to finance his way in the Day College. The provision has not to date operated, for the requirements are high; transfer is possible only to students who have the prerequisites to meet in full the standards of the Day College, and the conditions with which



George W. Childs Drexel

a majority of day-employees are faced makes such a step difficult of accomplishment.

In 1939 certain requests were made by industry for class work to be given in their own plants under direction of the Drexel faculty. The Evening School administration consented to this arrangement, which is in effect a limited form of extension work. Under the arrangement, a minimum registration is required, and only standard courses may be given, a provision which makes for transferable credits. Provisionally, only elementary work can be so extended.

National Certification Plan

Today, instruction in the Evening Diploma School is exclusively technical, dealing with engineering subjects and business subjects related to operation and management, and with architecture. Through close contact with industrial firms—by 1940 with 884 and to date with 900—Evening School instruction is closely coöperative. The majority of students register for technical studies germane to their day-employment. As evidence of the standing which the Drexel Evening School diploma enjoys in this area, it is affirmed by Director W. T. Spivey that one-third of the students have all or part of their expenses paid by their employing firms. Through the regular diploma groups, which are technical, through special courses offered to special groups at the request of their employers, and through provision of extension courses at plants, the Evening School has established within its field a record of service that is notable in Greater Philadelphia.

But it is just here that graduates of the Evening School, as of all similar technical institutes, meet a peculiar problem. To quote from the report of Mr. Fred B. Stratton, president of the Evening School Alumni Association:

In Philadelphia the work accomplished at Drexel Evening School received full acknowledgment from industry as to its real value in the field of technical education. This was, however, due to familiarity with its results rather than the existence of any standard. On the other hand, any graduate of the Evening School who moved to another city received little or no recognition.

In 1937-1938, the alumni president appointed a committee to

study the problem; and in the same year Director Spivey made a trip to England to study the English system of national certification in use at Liverpool and Manchester Universities, the College of Technology at Birmingham, and the Universities of Leeds and London. On his return, the alumni committee, which had meanwhile been making an exhaustive survey of catalogs of various technical schools offering non-degree education, met with Director Spivey and Dr. Kolbe and as a result, a campaign for national recognition of the non-degree technical diploma was initiated.

On invitation from Dr. Kolbe, a meeting was held in Pittsburgh early in 1940 attended by representatives of twenty-three schools as well as several members of the Society for the Promotion of Engineering Education and the Engineers' Council for Professional Development. Writes Dr. Kolbe in his *Annual Report* for 1939-1940:

As the result of the action taken at this meeting, two petitions were presented, one to the Society for the Promotion of Engineering Education, asking that a section be established within that Society for technical institutes; the second, to the Engineers' Council for Professional Development, asking that they undertake a study of technical institutes in the United States with a view to the possibility of establishing some form of recognition of courses given in these institutions. . . .

The first of these petitions was granted by the Society for the Promotion of Engineering Education in June, 1940, and the Engineers' Council for Professional Development has appointed a committee under Dean J. W. Barker of Columbia University to examine the possibilities of such a study as suggested in the second. Dr. Kolbe adds: "The initiative for these moves originated in the Alumni Association of our own Evening School, and it is the hope of all of us connected with the movement that it may be brought to a successful conclusion."

Among the coöperating evening engineering schools which urged this matter with Drexel are Pratt Institute, Northeastern University, Mechanics Institute, and Wentworth Institute. Should national accrediting be approved, the action would mark a milestone in the history of American part-time education.

The college degree and the high school diploma are both ac-

cepted as evidence that certain standards that are fairly uniform throughout the nation have been met. Both imply approximately the same training, whether presented in Los Angeles or New York. At present, the diploma of a given evening school is recognized as excellent only within the restricted locality which that particular school serves. But if and when non-degree technical evening schools of corresponding equipment and corresponding standards have minimum requirements set for them by one or more national accrediting bodies, and are granted the right to give their graduates a diploma with the approval of the appropriate national body, then the technical diploma within its field will have a value as fixed as that of the Bachelor of Science degree. It will open to its holder occupational opportunity in the measure of his training and skill from coast to coast and border to border.

The point has been made repeatedly that there is no old Drexel and no new Drexel. There is one Drexel Institute, and it has grown with the times to meet ever-changing needs. Neither is there a Drexel Evening School as distinct from the Day College. The two, supplementing each other, present a full and versatile service to the community. Each shares with the other the fruits of its endeavor, and supports the other in every effort toward constructive ends.

CHAPTER THIRTEEN

STUDENT LIFE AND GOVERNMENT

ORGANIZED student activities at the Institute reflect the unfolding pattern of Drexel education. It is beyond the scope of this chapter to tell the complete story of these activities. About them, however, enough may be said to rekindle pleasant memories, and show that only the outward form of student behavior changes with time, its essence remaining immemorially the same.

BACKGROUNDS

Organized social life at the Institute began with secret societies and clubs, the precursors of the present-day fraternities and sororities. The harmless voodooism of Drexel's infancy sprang from the eternal student urge to satisfy the gregarious instinct, to set himself apart from the crowd, and to mitigate the studious routine with the balm of fellowship.

By the spring of 1896, five years after the formal founding of the Institute, nine secret clubs are known to have been in existence. The *Eccentric* for 1896, annual of the class in Mechanic Arts, alludes to dozens, but lists only six. One of the earliest recorded is the Most High and Exalted Order of Petrified Pollywogs. Less secretive than most, the order avowed its purpose to be "to impart a knowledge of Sturm's Function to the South Sea Islanders; and also to show how an unnoticed janitor may become the high muck-amuck of a large institution of learning." If the Sturm here alluded to was Jacques Charles François Sturm, then the Pollywogs were concerned with mathematics. Other secret societies mentioned by the *Eccentric* were the Bohemians, the Twisted Twenty, D.Q.B., Lone Hand, D.C., and Faculty Advisors. To these may be added the Joker Fraternity, the Rock and Rye Brotherhood, and the Owls. While the objects of these clubs remain cryptic, it is clear that as early as 1896 some Drexel students were making an effort to be collegiate.

In 1900 came an important innovation, when a local Greek letter society organized as Lambda Upsilon Delta, a society later

referred to as "the oldest fraternity at Drexel," meaning the oldest Greek letter society. Its purpose was "to bring into closer fellowship the congenial, substantial and moral men of the Institute." In December, 1907, the *Echo*, a student publication, reported that Lambda Upsilon Delta had quarters at 3234 Chestnut Street.

In 1905 came Tau Rho Delta, which appears, on the authority of the *Lexerd*, to have continued until 1915. In 1907, the *Echo* reports a Delta Sigma. These three societies, together with Delta Epsilon Beta, mentioned in the *Echo* in April, 1912, complete the list, which should qualify any absolute statement that Greek letter societies were first organized at Drexel in 1920. These four, incidentally, were exclusively social societies, and are not to be confused with early professional clubs which adopted Greek letter names.

The Hellenic influence, though strong, did not wholly replace barbaric collectivism. Secret societies on the earlier model continued, and were at times the object of lively alumni interest. There were, for example, the Yip Yaps and the Mount Onionites, both flourishing in 1907. There was a Peerless Club in 1910, and in 1912 an initial association, the M.G.S., which the *Echo* once designated "the most influential and at the same time the most secretive" society in the Institute. It is likely that the membership of the non-Hellenic clubs was largely departmental, thus following the then highly departmentalized pattern of the Institute.

Hellenism in the Day College

The academic year 1919-1920 marks a rapid growth of collegiate Greek letter fraternities. A local, Kappa Sigma Delta, organized in that year was followed by another local, Phi Kappa Beta, both continuing until in 1933, when Kappa Sigma Delta affiliated with the national fraternity Pi Kappa Phi. In 1939 Phi Kappa Beta was nationalized as Tau Kappa Epsilon. More recently two other locals, Delta Sigma Alpha and Alpha Upsilon Mu, were nationalized as Theta Chi and Lambda Chi Alpha respectively. Besides these four national fraternities, Drexel has as locals Alpha Pi Lambda and Kappa Phi Delta. Admission to the latter is to men of the Jewish faith. All of these societies undertake to help their members in the solution of the problems of practical living in at-

tractive quarters and of social living in companionship based upon similar interests.

Sororities soon followed fraternities. Two years after the establishment of collegiate fraternities at the Institute, a local sorority, Phi Delta Nu, came into being, and was nationalized in 1926 as Sigma Sigma Sigma. A second local, Omega Delta Upsilon, affiliated itself in 1925 with the national education sorority, Alpha Sigma Alpha, becoming the first such society at Drexel. The local Kappa Delta Gamma, appearing in 1924, became Delta Sigma Epsilon in 1928. Other sororities at the Institute are the locals Pi Sigma Gamma, restricted to women of the Catholic faith; and Sigma Omicron Pi, restricted to women of the Jewish faith.

Modern Non-Hellenic Societies

Since 1920, continuing the tradition of the secret society, the Suicide Club, the Morons, the Lion Tamers, and the Woofs have flourished. Later came the Pickwick Club, flourishing between 1933 and 1935, holding forth like its parallel brotherhood, the Society for Philosophical and Psychical Research, in local grogeries. In 1937 appeared the Eightball Union, a social club of students in chemical engineering occasionally active in political opposition to fraternity cliques. Currently one hears of the Vigilantes, whose purpose seems to be the direction of Drexel student opinion. Ephemeral clubs like these often serve useful purposes. Appealing to individualistic youth, they provide a forum for protest, satire, and crusade that leavens the conventional course of college life.

Other Ephemeræ

In presenting the record of Drexel student organizations effort has been made to achieve logical grouping. But the history of the Institute is dotted with miscellaneous societies which perished out of time.

One of Drexel's earliest professional societies was the Architectural Club, active as early as 1897. Alpha Phi, another architectural group, flourished ten years later. Dating from 1907 was Delta Delta Sigma, a debating and literary society, which in 1908 admitted women to membership and was spoken of as the "official literary and debating society." Here, then, is the archetype of the

present Debating Society. Other ephemerae of 1910-1912 were the Wireless Club, the Social Club, and the Society of Class Presidents. Here also may be listed the Witanagemot Club, a faculty luncheon group, said to have been founded about 1895 and lasting until the latter years of its distinguished member, Dr. MacAlister.

In the early period of President Godfrey's administration the number of miscellaneous societies increased. With 1916 and for some years thereafter came a flowering of sectional clubs: the Southern, the Empire State, the New England, the New Jersey, the Pennsylvania, and the Latin-American. All but the last restricted membership to women. In 1916, a Drexel Radio Club, quartered on the fourth floor, erected an aerial and "a wireless telegraph set." The statement of its sponsors in 1916 has a touch of the quaintly remote, so rapid has been the growth of what the Radio Club mildly phrased "this most interesting and useful art."

Six more clubs remain: the Literary, Phoenix, Mathematical, Aero, Chess, and Commuters. Of the Literary Societies at the Institute between 1914 and 1918, the first, organized by men, flourished for two years. Reorganized by women students, it continued to 1918. The Phoenix Club, formed in the early twenties by an engineering group, was absorbed by Tau Beta Pi, and not as commonly supposed by the Blue Key Fraternity, which existed concurrently with it. In the winter of 1923-1924 students in the School of Engineering organized a Mathematical Club, whose deliberations over a four-year period were frequently guided by Professor Wolff. Born in 1927, the Drexel Aero Club died in 1931. The Chess Club, organized in 1930 under the sponsorship of Professor Horace W. Hannah, has enjoyed a continuous existence. Finally, a Commuters Club, founded at the suggestion of Dean Ruth A. L. Dorsey, in 1929-1930, admits to membership all women students not residing at the dormitory.

DRAMATICS AT THE INSTITUTE

Students manifested interest in amateur theatricals in the beginning years of the Institute. A dramatic club called the Thespian Thirty gave plays as early as 1895. In 1896 this club, under the direction of the Art Department, gave *Après Tout* and *The Indifference of the Miller of Hofbau*, and in the following year offered *Gringoire* and *The Ambitious Shepherd*. By 1906 the death of the

Thespian Thirty is indicated by the appearance of a new club, the Masqueraders, which within the following five years presented *Economical Boomerang*, *A Quiet Family*, *Timothy Delano's Courtship*, *My Uncle from India*, *The Lords of Vauxhall*, *All the Comforts of Home*, and *John Brad, Deceased*. The Masqueraders had an interesting history. In one year it gave no plays at all "because of a lack of feminine material." An expression of alumni interest was the desire of graduates to continue actively in theatricals at the Institute, and led, in 1909-1910, to the creation of a Thespian Club as the official dramatic society of the Alumni Association. The *Echo* of February, 1910, states that this club comprised persons who had acted with the Masqueraders.

Between 1912 and 1915, the record of Drexel dramatics is sketchy, owing in part to the suspension of the *Echo* in June, 1912, and the departmental accent of the annuals before 1914. In the early years of Dr. Godfrey's administration two dramatic societies, one of men and one of women, were formed. In November, 1915, Drexel women gave a reading of Galsworthy's *Pigeon*, and in the same year the young men presented *Box and Cox*.

In 1915 agitation for a toy theater* became vocal. From the founding of the Institute to 1917, students interested in dramatics never had at their disposal an adequate stage. The original platform was unsuited to theatrical use, for its size dwarfed the players and its properties were fixed. The so-called toy theater in which for a while the students rejoiced was a compromise, neither a toy nor a theater. Not until the middle twenties when the auditorium platform was enlarged and later equipped with proscenium curtain and adequate lighting, did the Institute have a stage that was possible for dramatic use.

Beginning with 1916-1917, dramatics for a number of years were in direct charge of Miss Ruth Verlenden, Professor Ryder having general supervision. Under Miss Verlenden the Dramatic Society presented good plays, and between 1918 and 1923 improvement in the quality of performance was observable. In 1922-1923 the Society gave short plays by Percival Wilde, Christopher Morley, and Stanley Houghton. The following year, coached by

* A small portable proscenium frame. Placed upon the auditorium platform, it focussed audience attention, and made possible changes of scene.

Professor Altmaier, the students gave Barrie's *The Old Lady Shows Her Medals*.

Activities of the Dramatic Society during the middle and late twenties were various and novel. The Society became a member of the then flourishing Pennsylvania Intercollegiate Dramatic Association and for a time competed in the annual play tournament. In 1926, again directed by Professor Altmaier, it presented Bulwer's *Money*; and during the next season was host to the intercollegiate tournament. In March, 1928, the Dramatic Society took part in a play contest held at Franklin and Marshall, the Drexel players on this occasion appearing for the first time under the name Rouge and Robe.

The new name suggests a confusing dualism in dramatics at Drexel, but actually the situation worked out very simply. By 1929 the Dramatic Society had become a training and producing body. From it the experienced player graduated into Rouge and Robe. In 1935-1936 a national dramatic society, Alpha Phi Omega, was established at Drexel. This Greek letter group superseded Rouge and Robe, which has since assumed the training function of the former Dramatic Society.

In the last two decades consistent improvement in choice of plays and in presentation has been marked. Credit for much of this improvement belongs to three members of the faculty and to the present director, Mrs. Elwyn F. Chase. As noted, Professor Altmaier coached productions in the early years. For more than a decade, his successor, Dr. Robert S. Hanson, did all of the staging and much of the coaching. Mr. Walter Henneberg directed capably for two seasons. Mrs. Chase, succeeding Mr. Henneberg, became director of dramatics in 1938. The most ambitious undertaking of Drexel students under the present director was the performance of Maxwell Anderson's *High Tor*, given in the spring of 1940.

MUSIC AT DREXEL

If student dramatics are deeply rooted in Institute history, the roots of musical activity go still deeper. Even before the formation in 1893 of the Drexel Chorus, not of present concern, a Banjo Club was organized, and within two years, amplified, was competing with similar clubs. In 1894, playing in an eight-entry contest

at the Academy of Music, Drexel finished third. Under the professional direction first of Mr. Paul Eno and, later, Mr. Thomas J. Armstrong the organization flourished, so that by 1897 the Banjo, Guitar and Mandolin Club comprised more than twenty pieces.

The popularity of string bands declined after the turn of the century. A Mandolin Club of 1916 and a String Club of 1927 died young. In 1927, however, the Drexelians, a dance band, was formed under the direction of H. Clifford Gehman. The Drexelians were styled along the lines of an earlier jazz band, the College Serenaders, and kept abreast of current musical taste. Featuring musicians of the freshman classes, they assumed for a time a conspicuous place in student social life.

Early, too, were efforts in forming symphonic orchestras, choruses, and glee clubs. The *Eccentric* of 1896 contains a flippant account of Drexel's first orchestra, and later student publications contain many references to various musical groups. Perhaps the Drexel Glee Club has in one form or another enjoyed a more continuous life than any other musical organization. In a modern phase dating from 1914, the Glee Club was for a time directed with distinct success by Mr. Henry Hotz, but declined in the early twenties. In 1925 Mr. William Sylvano Thunder became the organist of the Institute, succeeding the gentle and diminutive James M. Dickinson, who at the time of his death in 1924 had served as organist more than thirty years. Gradually Mr. Thunder added to his duties the direction of both Glee Club and Orchestra. Initial difficulties were many and serious, but progress in singing and instrumental work was evident during the late twenties and early thirties. In 1932 the Glee Club, for a time composed of mixed voices, divided to form men's and women's groups. Mr. Thunder continued with the men; Mr. Edgar M. Welch assumed the direction of the women.

In September, 1936, Mr. Welch was made director of student musical activities, and has since then been in charge of all voice and instrumental work, including that of the Reserve Officers' Training Corps band, which is today the most important musical unit at the Institute. Organized in the spring of 1925 by Captain Ollie W. Reed, then commandant of the local Corps, the band has grown into a competent, well-equipped body of more than sixty musicians. Credit for this development belongs to former directors

Mr. James A. Boelker and Dr. Edward J. Byrne, and to the present director Mr. Welch.

STUDENT PUBLICATIONS

To the class of 1895 in Mechanic Arts goes the distinction of producing Drexel's first regular student publication, the *Eccentric*. This class had as its secretary John W. Gray, first editor-in-chief of the *Eccentric*, which in the beginning recorded the interests of the Department of Mechanic Arts. In 1896 it broadened its scope, and in 1897 the editorial staff represented nine departments of the Institute. The *Eccentric* of 1897 is ancestor to the *Lexerd*, which, begun by students of engineering, became the annual of all Institute graduating classes. The three published numbers of the *Eccentric* remain a valuable record of student activities in the middle nineties. Also valuable for this period is the *Hanseatic*, edited by John T. Holdsworth and issued in 1896 by the students of the Department of Commerce and Finance. The single issue of the *Hanseatic* contains interesting comments on happenings, with portraits of students and teachers, in the Business Department, today the School of Business Administration.

For many years students agitated for a paper or magazine, until from 1904 to 1906 a faculty committee published a monthly called the *Bulletin*, a periodical which made provision for student and alumni opinion. Shortly after the *Bulletin* suspended publication in December, 1906, a student monthly called the *Echo* appeared, its first number February, 1907; its last, June, 1912. To Samuel Tabakin, first editor, George B. Yard, Jr., first business manager, and their associates belongs the honor of initiating the first major product in student journalism at the Institute.

Before the *Echo* was launched an officially sanctioned faculty-student committee outlined the general plan. Professor Gummere was especially helpful, and the first number acknowledges his aid with thanks. The *Echo*, fairly consistent throughout its career, presented its matter under the following heads: Literature, Groups, Editorials, School Events, Athletics, Organizations, Alumni, Evening School Notes, Exchanges. It was peppered with photographs, plates and reproductions. The *Echo* was a creditable performance, and remains a valuable general source for Drexeliana of the years 1907-1912.

The *Lexerd* has long been the classbook of Drexel graduating classes. After the suspension of the *Eccentric* in 1897, no regular annual was published until 1911, when the students of the School of Engineering sponsored a *Yearbook*, with accounts of the graduating class, and photographs of Institute personalities. Retitled the *Record* in 1912, the annual in 1913 appeared under its present title, *Lexerd*.

The editors undertook to present a chronicle of school life, a record of memorable happenings, choosing the name *Lexerd* because their book was a looking-back-on-Drexel. In 1914, the *Lexerd*, at faculty suggestion, became "the first publication to stand for the Institute as a whole; the first to stand as the united effort of the graduating classes." The *Lexerd*, its sequence of annual issue unbroken, attains at times a high degree of excellence in writing and design.

Just as preliminary agitation marked the founding of the *Echo*, so agitation preceded Drexel students' second serious venture into periodical literature, the *Drexerd*, a monthly magazine. First issued in February, 1919, Harold A. Windisch, editor, the *Drexerd*, in spite of occasional failures to meet deadlines, has continued to the present time. Beginning as a cross between a newssheet and a magazine, it has at different times taken on different colorations. Under such able recent editors as Harry E. Blank, Charles H. Thayer, and Edward W. Hermann, the *Drexerd* achieved originality and distinction.

In February, 1926, encouraged by President Matheson and supported materially by the Board of Trustees, a group of students established the *Drexel Triangle*, the Institute's first newspaper. Beginning as a semi-monthly, the *Triangle* soon became a weekly. Credit for this important student enterprise is owing to Thomas T. Mather, editor, and to Robert Burns, Elizabeth Darlington, and Ann Gross, Mather's chief assistants.

Since its founding the *Triangle* has steadily advanced. In 1928-1929, under Edith M. Rood, first woman editor, the format of the paper was modernized. Frank Gervasi, then on the staff of the *Triangle*, now a well-known foreign correspondent, was responsible for this improvement. In the last decade, especially under the recent editorships of Eleanore M. Burkholder and Thomas J.



The Lounge of the Student Building

Polites, the *Triangle* has won an enviable position in college journalism.

In June, 1938, Theodore B. Hartung, Frederick D. Brown and Harold O. Kron constituting its editorial board, appeared the first number of the *Technical Journal*, a bi-monthly publication whose purpose is "to present a true picture of modern engineering and of the engineer's relation to his fellowmen." It has been the policy of the *Technical Journal* to present scientific papers, chiefly by students, together with graphs, charts, pictures, comments and reviews of engineering interest. Indicative of student enterprise, the *Technical Journal* is a most important undertaking.

Out of the common interests of students working on Institute publications have emerged sporadic journalistic clubs. In 1910 members of the *Echo* staff formed an Editors Club. The Quill Clique and the Philogia of the early thirties are other examples. A press club, free from college politics and restricted to students genuinely interested in writing, is a present need at Drexel.

STUDENT PROFESSIONAL SOCIETIES

Perhaps the most important type of student organization is that which fosters the professional interests of Drexel men and women. Many such clubs existed in early Institute history, but only present-day professional societies and their antecedents can here be listed.

In what is now the School of Home Economics professional and, no doubt, social consciousness led more than a generation ago to the founding of Omega Gamma, a sorority of the junior domestic science students. This was prior to 1907. Flourishing concurrently was a Home Economics Association. As early as 1912 Delta Kappa Nu, another domestic science club is noted as having died. Clearly here are the antecedents of the Home Economics Club of recent time, of the Dietetics Club, and even of Omicron Nu, an important national society which was installed at the Institute in the fall of 1938.

Of comparatively recent origin are professional clubs in the School of Business Administration. A local Beta Rho Delta, founded in January, 1929, was absorbed by the Drexel Bourse, which limits membership to men in the junior and senior classes. In the fall of 1931 a Business Science Teachers Club, admitting

both men and women, appeared, subsequently becoming Beta Sigma Tau, which, like the Bourse, still flourishes. In the late thirties the students in commerce and engineering formed the Society of Commercial Engineers. This club pleads the cause of a group whose position in the Institute is slightly anomalous, its complexion being neither wholly engineering nor wholly commercial. In June, 1941, a chapter of Pi Omega Pi, a national honor society for commercial teachers, was installed at Drexel.

Professional and honor societies in the School of Engineering stem from an early discussion group called the Engineering Seminary whose prime movers—going back to the early years of the Institute—were Professors A. J. Rowland and Abraham Henwood. Comprising faculty and student members, the Engineering Seminary met to read and discuss scientific papers and to hear invited speakers. The Seminary was active as late as 1908, but was discontinued in 1909. Its successor of 1910 was the Engineering Club, whose aim was to promote scholarship and fellowship and “to provide and maintain a suitable place for the discussion of topics arising in connection with the engineering profession.” This body, later called the Drexel Club of Engineers, lasted more than a decade, but did not long survive the reorganization of the School of Engineering in 1919. One other society for technical men in the period was the ephemeral Observation Club, which made inspection trips to industrial plants and to engineering projects.

In 1919 a branch of the American Institute of Electrical Engineers was established at Drexel. Soon, students in mechanical and civil engineering organized branches in their respective national organizations. After Drexel received in 1915 the right to grant degrees in engineering, individual students had joined these bodies. With the formal establishment of the student branches at the Institute such affiliation became routine for a majority of juniors and seniors in the School of Engineering. Completing the list of these important professional groups is a division of the American Society of Chemical Engineers, which in 1934 superseded the Drexel Chemical Society.

The steady growth of professional organizations in the School of Engineering was climaxed in November, 1930, when a chapter of the distinguished society of Tau Beta Pi was formally installed

at the Institute. Founded at Lehigh University in 1885, this honorary fraternity has upward of seventy chapters in the engineering schools of leading colleges and universities. Few honors are more cherished in such schools than recognition by Tau Beta Pi. Two other well-known engineering fraternities recently established at Drexel are Phi Tau Sigma and Eta Kappa Nu, to which upper-class men in mechanical and electrical engineering respectively are eligible.

GENERAL HONOR SOCIETIES

Four general honor societies remain to be mentioned: Key and Triangle, Blue Key, Scabbard and Blade, and Phi Kappa Phi. Key and Triangle, now old at Drexel, admits upperclass women to membership and seeks to reward both scholarship and service to the college. In addition, it performs regulatory duties, the chief of these being the administration of the point system whereby the extracurricular activities of women students are controlled as to kind and extent. Blue Key, a national organization for men, is in aim and purpose not dissimilar to Key and Triangle. It, too, tries by election to membership to recognize scholarship and helpfulness in forwarding the interests of Drexel. Scabbard and Blade is a national military society. Its purpose is to promote military education in America, honoring work of exceptional quality in units of the Reserve Officers' Training Corps. Phi Kappa Phi, installed locally in 1936, is unique among the general honorary fraternities at Drexel. It alone admits to membership both men and women from all the undergraduate schools of the Institute. Phi Kappa Phi believes in the essential equality of all branches of sound knowledge. It seeks at Drexel to reward high scholastic attainment in business administration, in engineering, and in home economics, and in all significant subdivisions of these fields.

It would be hard to overemphasize the stimulating effect which such societies as Omicron Nu, Tau Beta Pi, and Phi Kappa Phi have upon scholarship at the Institute. Locally established and ephemeral departmental clubs of earlier days served useful purposes, but changes and developments, especially in the last two decades, have brought to the Institute favorable recognition from the outside collegiate world. This is forcibly attested by the

chapters of such societies at Drexel. They have added greatly to Institute prestige.

Religious Organizations

The Institute is non-sectarian; its students are of many faiths. References to organized religious activities by students first appear in the early twenties, when Drexel branches of the Young Women's Christian Association and the Young Men's Christian Association were formed. In the same period, sponsored by Catholic students, a Newman Club appeared; also a Menorah Society, founded by students of the Jewish faith. In 1929 the Menorah Society became the Jewish Students' Association. These organizations—and the recently established Drexelterians—promote the social and moral well-being of their membership.

The Drexel Ode

In the fall of 1898 a young woman named Virginia C. Castleman enrolled in the Library School of the Institute. She had come to Philadelphia from her home in Herndon, Virginia. To Miss Castleman, modest and shy, life in a great city was strange and exciting. This much and more is revealed in *Dixie's Diary*, Miss Castleman's rapt and dewy-eyed record of her Philadelphia year, which may be seen in typescript in the Institute library.

On arriving in the city, Miss Castleman found living quarters in a house not far from the University of Pennsylvania campus. In her diary, she speaks of returning to her lodging to hear evening after evening the singing of *Hail Pennsylvania* by University students living in the neighborhood, and feeling sad that Drexel had no song. An entry in the diary, January, 1899, runs:

I am wondering lately why my Alma Mater has no special anthem. Is it because she is yet so young—only seven years old? or because no poet has arisen from her ranks to honor her in song? May this year of grace, 1899, bring its own inspiration!

Two months later, apostrophizing the diary, Miss Castleman announces that she has found a remedy:

My journal, the inspiration came; for days it had overshadowed me, to the detriment of study or any other claims. As I was dressing one

morning, trying to remember the accession numbers scheduled for the day's library work, without premeditation came the words—

*Hail, Drexel Institute,
Worthy of praise. . . .*

I struggled to keep back the thought, but no!—suppose the inspiration should leave me! Making a dash for pencil and paper, I gave myself up to the joy of composition—

*Blest Alma Mater!
Within thy walls. . . .*

And finally:

*Radiant in beauty now
We see thee stand,
Laurel upon thy brow,
Lyre in thy hand. . . .*

Suppose this should turn out the Ode-to-be? Our Institute anthem? The hope thrilled me, as I hummed the lines. Musing thus, I wrote out three stanzas, to be polished later and submitted to the President himself. Meeting that great personage in the Court entrance, I had the courage to inquire whether he approved the idea. The dear man showed much interest, for the Drexel Institute is his idol; he said he would be glad to examine the verses when I should submit them to him in writing. Next day, I left my poetic effusion at the office, in care of Mac, the interested caretaker, who locked my precious paper in the office drawer, promising to call it to the attention of his master. Not many days thereafter, I received a favorable reply. My verses are to be set to music by our Institute organist, and sung at the Commencement. I cannot take it in fully, my diary; you are my first confidante, so we will keep the secret for the present; a strange shyness of publicity overwhelms me.

The organist referred to was the slyly humorous James Dickinson, who, at the request of Dr. MacAlister, set Miss Castleman's words to music. Few since Dickinson have realized the whimsical appropriateness of his music to the Castleman lyric: bar for bar it harmonizes with "Hail Pennsylvania," which in its turn stems from the anthem of Czarist Russia.

A Note on the Drexel Colors

The official Drexel colors are gold *with* blue. What they were originally is in dispute. Some say orange; some, gold; some, gold

and silver; still others, orange and silver. The claim for the last is strongly supported by H. D. Cady, '96, in a recent letter to Dr. Kolbe, which in part reads:

As a member of the class of 1896, having entered the Institute the year it opened, I thought that I would send you my old Drexel pin which I wore while a student in the Mechanic Arts Department. . . . The pin which I am sending is of the regular design used when the Institute opened its doors fifty years ago. The colors, orange and silver, were the colors in those days.

In the early twenties the Athletic Association adopted blue and gold for the Drexel teams. Later a committee of interested persons, after studying the matter, recommended that the colors of the Institute be gold *with* blue. The recommendation of the committee was approved by the Board of Trustees.

STUDENT GOVERNMENT

Organized student government was virtually unknown at the Institute before 1905, when an Advisory Committee was formed comprising nineteen teachers, appointed by Dr. MacAlister; sixteen students, elected from the departments; and two alumni. The purpose of the Advisory Committee was to encourage the student groups to extend their allegiance and loyalty beyond departmental limits to include the Institute as a whole by giving students some control over their own affairs.

The *Bulletin*, organ of the faculty, in December, 1905, commenting editorially on the formation of the Advisory Committee observes:

There must be in every large educational institution common ideals and a certain feeling of loyalty necessary to bring the influence of the institution as a whole to bear upon the great body of students.

For some time before 1905 the more articulate students had resented what they chose to call the aloofness, the austerity and even the narrow-mindedness of some members of the faculty. Though its powers were strictly limited, the Advisory Committee was a real concession to student opinion, the most important perhaps in the early history of the Institute. In their struggle for some semblance of self-government the students were greatly aided by Professor Henry V. Gummere.

No important reference to student-government activities occurs in the publications of the Institute after 1912 until 1918, when a Men's Student Council and a Women's Student Council were formed. Mr. Richard C. Gorman was president of the former; Miss Dorothy Hoagland, of the latter. These organizations, which formally initiated student government at the Institute, received strong support from Professor J. P. Ryder and Dean Mabel Dickson Cherry.

The pioneer work of the class of 1919 has with the passing years been greatly expanded. During the twenties the men and women of the Institute, under supervision by Dean Ryder and Dean Ruth A. L. Dorsey, were given increased responsibility for the direction of their own affairs. To the Women's Student Government Association, which includes all women students, the faculty has granted extensive powers for the maintenance of correct conduct at the Institute and in the city. The Men's Student Council manages class elections, sponsors social events, and promotes the general welfare of men students.

CHAPTER FOURTEEN

STUDENT HEALTH AND GAMES

THOUGH intercollegiate sport is the focus of athletic attention at Drexel today, the early Institute's official provision for health through exercise was its Department of Physical Training. At first, classes were offered for both men and women; but the attraction of competitive sports to men became very soon apparent. For this reason physical education in its formal sense of gymnastic drill has become associated almost exclusively with the story of physical training for women. The order of the subjoined sequence will follow the chronology of official Institute sponsorship: first, the work of the charter Department; then of student health; and finally, the course of formal intercollegiate competition, a development of fairly recent date.

DEPARTMENT OF PHYSICAL TRAINING

Among the original physical endowments of Drexel none was more impressive than the gymnasium. This appointment with its climbing ropes, window ladders, stall bars, Swedish box, horse, buck, and boom was almost revolutionary. There is no need to treat at length of the special classes offered for Philadelphia women, who for many years found their way to what has for long now been merely "the girls' gym." But it should be remembered that here student life in a highly departmentalized institution once converged and established for a while each week a community of interest. If walls could talk, the walls of this old gymnasium could tell a fascinating story.

Physical education—formerly called physical training or gymnastics—has been regularly a part of the curriculum at Drexel since September 1892. The first directors of physical training, J. Peterson Ryder for men, and Maude G. Hopkins for women, were colorful personalities. Mr. Ryder taught gymnastics to the men, and fencing, in which he particularly excelled, to both men and women. He was a competent gymnast, an exacting teacher. Miss Hopkins had charge of gymnastics for women. Of slight

stature, she was a woman of untiring energy and a sense of humor which lightened the strictness of the standards she set.

In his later career Mr. Ryder occupied the posts of librarian and Dean of Men, but he is chiefly to be remembered for his devotion to Drexel athletics over a span of years just fewer than forty. Although Miss Hopkins' tenure was much shorter, lasting from 1892 to 1907, her place is equally secure in Drexel annals. In September, 1907, Miss Hopkins was succeeded by Miss Mabel Dickson Cherry as Professor of Hygiene, and later Dean of Women. From 1921 to 1923 physical education for women was directed by Miss Emma M. Murphy, who was succeeded in 1923 by Miss Marion Crawley. To Professor Crawley, to her former associate, Miss Martha Henwood, and to Mrs. Josephine Landis Ulrich, the present director, belongs credit for the direction of the athletic program for women in the last two decades.

Before coming to Drexel, Mr. Ryder and Miss Hopkins had spent some time in teaching. Both had studied in the Boston Normal School of Gymnastics, which had been founded in 1889 for the training of teachers in gymnastics and physical education. Like other graduates of this school, which was later absorbed by Wellesley College, Mr. Ryder and Miss Hopkins were notable for the pioneering zeal with which they, by precept and example, set about spreading what was then the new gospel of Swedish gymnastics.

During the first half of the nineteenth century, physical training for women, under the leadership of such educators as Mary Lyon, Emma C. Willard and Catherine E. Beecher, consisted of calisthenics and dancing. Dancing has been continued in all its forms as a valuable branch of physical education, but during the latter half of the nineteenth century calisthenics were superseded by gymnastics, or systems of organized exercises, of which the Swedish was one.

The Swedish system, introduced at Drexel in 1892, was designed "to produce a harmonious development of the human organism, and to ensure the preservation of health as well as the cure of diseases." Theoretically these desirable ends were achieved by "increasing circulation and respiration, assisting digestion, and increasing nervous control." Moreover, the psycho-

logical as well as the physiological restraint displayed in the gymnasium was held to carry over into more general self-possession and self-discipline—a result avowed for most athletic disciplines. The Swedish system is concise in terminology and precise in method. Though no detailed description need here be undertaken, some notion of the character of the drill is suggested by the so-called Swedish Day's Orders: "introductory exercises, arch flexions, heaving motions, balance movements, shoulder blade movements, abdominal exercises, lateral trunk movements, slow leg movements, jumping and vaulting, and respiratory exercise."

Reads the *Eccentric*, class annual of 1896:

The young men and young women of Drexel Institute whose occupations are sedentary are encouraged to take systematic exercise in order to erect and expand their frames, to promote active circulation, and to correct anatomical and physiological faults acquired in the study and recitation rooms.

A quotation from the same source is of interest because it expresses what must then have been the official attitude of the Institute toward systematized exercise as distinguished from competitive games:

Gymnastics are for individual training and development, and have health strongly in view as an object. Athletics take the form of competition and contest; emulation is their moving spirit, glory their aim. Gymnastics are a means to an end of life and vigor. Athletics become an end in themselves. Gymnastics are for all; athletics for the few.

That there is some truth in the distinctions which the writer makes cannot be denied. Early as he wrote, the drift away from gymnastic drill to competitive sport had already begun. In another Drexel publication of 1896, the *Hanseatic*, a bit of doggerel addressed to J. Peterson Ryder, gives evidence of trend. The verses, which are entitled "To J. P. R. on Cutting the Gym," may be assumed to contain some truth, since they assuredly contain no poetry.

*Tell me not, Prof., I am unkind,
When from the drudgery
Of those gyrations in the gym
To milder moods I flee.*

*True, a new mistress now I chase
Upon the tennis court,
And find delight unbounded in
This gay non-Swedish sport.*

*So oft you'll miss me from the gym,
But this you'll have to bear—
I will not play in your backyard,
When I can play elsewhere.*

The shift from formalized gymnastics to competitive games and freer athletic exercises was hastened by the Natural Activities Theory, formulated in 1910 by Dr. Thomas D. Wood, who held that the physical and muscular aspects of health occupied too large a place in physical education. Such education, according to Dr. Wood, "is much more a matter of the nervous system than of muscles." He recommended a program of training which, assuring health by indirection, would result in mental, moral, and social benefits.

The followers of Dr. Wood's theory advocated sports, games, dancing, stunts, and tumbling as substitutes for gymnastics. They believed such activities, to a greater extent than gymnastics, compelled actual practice in self-direction and developed habits and attitudes essential to well-rounded lives in school or in the world at large. In accordance with the Natural Activities Theory, directors of physical education began to study the student's need for a unified and integrated personality as seriously as his need for a healthy and efficient body.

Most departments of physical education, however, still hold to the desirability of including some type of gymnastics in their programs. One of the most favored systems of the present time is that of Niels Bukh of Denmark. Based upon the premise that continuous, rhythmic and free body movements will produce flexibility, agility and coördination, the Bukh system undertakes to build, not muscular automatons and phenomenons, but efficient and useful citizens. While no specific gymnastic regimen is used today at Drexel, the work combines the fundamentals of body mechanics, with selected elements of Bukh. This freer sort of gymnastic routine, dancing, and an extensive sports program now constitute the athletic activities of the women of the Institute.

Symbolic of the change is the brooding atmosphere of the old Drexel gymnasium, its woodwork polished by age and use to the color of walnut. Of the apparatus which once crowded it only the stall bars remain. The climbing ropes, window ladders, flying rings, and floor apparatus have given way to a precise badminton court.

Athletics for Women: 1922-1941

Naturally, the athletic field at Forty-sixth and Haverford Avenue makes possible for Drexel women a far greater variety of athletic activities than of old. Here classes in hockey, tennis, and archery are held in the fall and spring. Field and track sports for women, popular fifteen or twenty years ago, have lost favor, since they are now thought to have little carry-over value. The annual track meets in which Drexel women formerly competed are no longer held. Basketball, always popular and played intramurally for years, was the chief form of intramural competitive athletics for women at Drexel prior to 1921. The first varsity game of note was with Swarthmore College in that year, which was further signalized by the initiation of riflery for women.

In 1922 the sports program for women began to expand rapidly, for in this year are to be noted such competitive activities as basketball, swimming, riflery, baseball, tennis, and track events. At the close of the decade fencing and field hockey were revived, and archery was added to the program. Today, Drexel women participate also in badminton, volleyball, bowling, ice skating, and horseback riding—all possessing carry-over value for a sensible recreational regimen when college days are over.

At the present time a student in physical education has one term in field hockey, one term in body mechanics, and one term in hygiene. A posture silhouette of each student is taken and filed, and on the basis of her silhouette a student is assigned work suited to her individual needs. For the remaining four terms of physical education a wide choice of athletic activities is open.

A recent tendency in physical education has been to restrict intercollegiate sports for women, since in many quarters such competitions are held to contribute to the exploitation of the few rather than to the physical well-being of the many. None the less,

Drexel women today do compete with women from nearby colleges in such sports as hockey, basketball, riflery, tennis, and archery.

So far as routine practices are concerned physical education for women at Drexel today differs widely from what it was under the Swedish system of gymnastics. Today's program is flexible enough to permit the individualized approach.

The purpose of an intelligently designed athletic regimen is, of course, health. The Drexel Department of Physical Education has from first to last sought to guard and to promote student health. In this work Director Ulrich and Director Halas (since 1934 in charge of the recently revived program of physical education for men) are now aided by a thorough nursing and medical service.

STUDENT HEALTH SERVICE

1922-1941

Prior to 1923, responsibility for treatment of emergency illness and injury among Drexel students rested with a single resident graduate nurse, Miss Bertha J. Wold, who, appointed in 1916, resigned in 1918 for war service in France. In 1922 Dr. J. H. Arnett came to the Institute as visiting physician, his duties consisting at first of morning calls at the women's infirmary at 216 North Thirty-fourth Street.

In 1924 Drexel entered upon a systematic program of student health under Dr. Arnett's direction. Since 1930 all students have been required to take physical examinations annually. Periodic examination is, of course, a preventive measure; the degree to which active treatment has been extended is evidenced by plain figures. In 1922-1923 six bed cases and eighty-nine ambulatory patients were treated, only women students resident in Institute dormitories being then eligible for treatment. In 1938-1939, 276 bed cases and 2,277 ambulatory cases were treated at the infirmary of the Sarah Drexel Van Rensselaer Dormitory, while in the men's and women's dispensaries in the Main Building there were 5,563 consultations, including the examination of the entire food-handling personnel.

High credit is owing to Dr. Arnett, his assistants, and his resi-

dent staff; and to Dr. L. K. Ferguson, official physician to the varsity athletic teams.

COMPETITIVE ATHLETICS FOR MEN

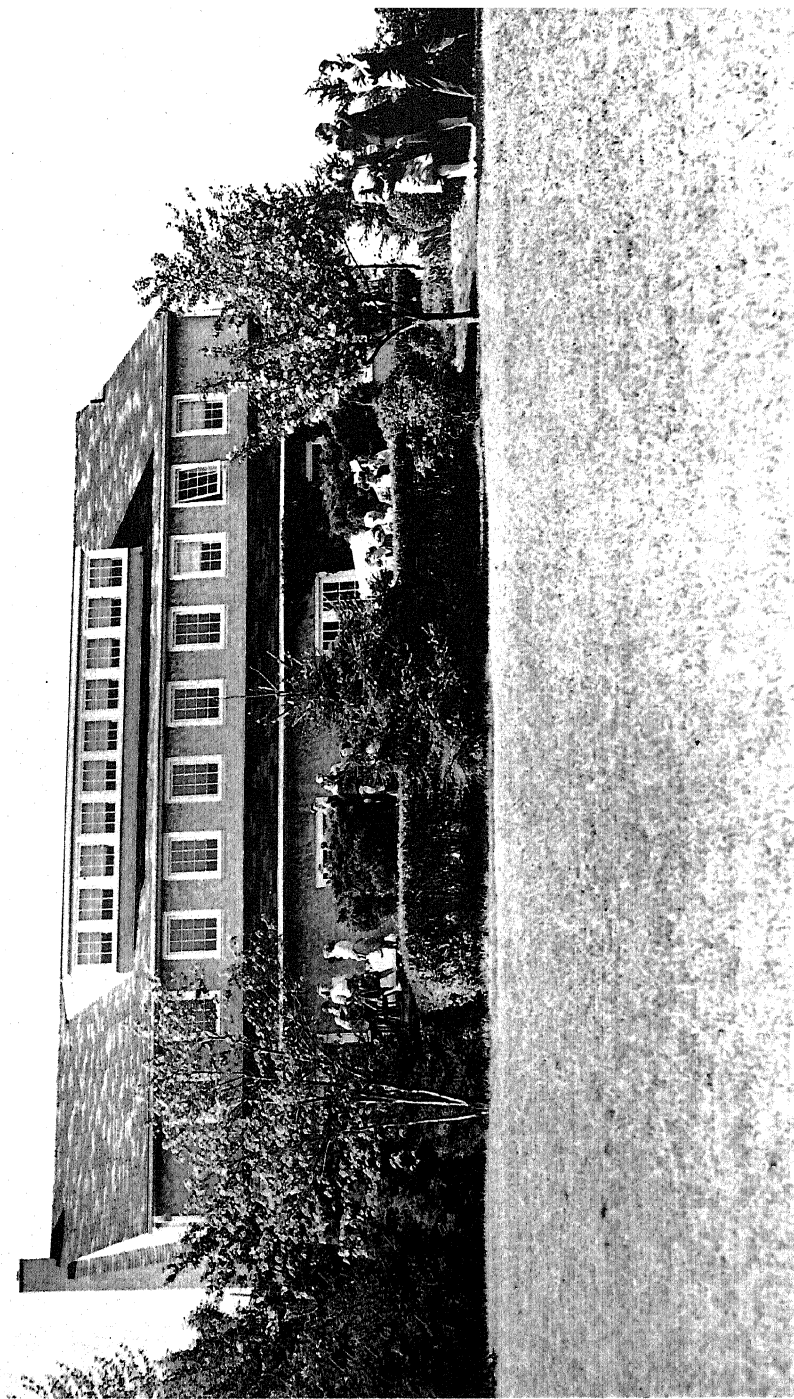
Competitive sports at Drexel organized themselves. Team captains made up schedules and players provided their own equipment. The official attitude of the Institute toward competitive sports, as distinguished from physical education was indifferent and mildly disapproving. In 1892 the first football team was organized under H. L. Catanach, and in the following year a team captained by Stuart Heist met with moderate success. In 1894 N. D. Holbrook, captain, and J. R. Bosbyshell, manager, put an eleven on the field which, in the best sandlot tradition, took all comers: the Crescent Whist Club, the Hamilton School, the Linden Club, Shortlidge Academy, the Manual Training School, and the Bank Clerks' Association. The same year, a basketball team, R. J. Woodward, captain, met some success; and a baseball team led by Paul Van Dusen and managed by George Essick took the field as Drexel's first nine. The following year the Drexel boys added field and track to the growing list. Basketball, soon dropped by faculty ruling, continued intramurally as part of the program in physical education.

In 1895 an athletic association, created and supported by students, came into being, its officers for 1895-1896 being W. B. Shoe, president; J. L. Nieukirk, vice-president; R. Entriiken, secretary; P. H. McCook, treasurer. The association tried to stimulate student interest in competitive sports and urged the purchase of a regular athletic field, but without result. Vacant lots in the vicinity of the Institute continued to serve as playing grounds. In 1896 the football team captained by R. R. Worrell practiced at Belmont Plateau, but played at Forty-fourth Street and Elm Avenue.

Beginnings of Official Recognition: 1898-1910

In 1898 Drexel produced a very successful football team, coached by D. L. Reeves and led by Charles Corson. This undefeated team, whose star tackle was W. M. Brown and whose outstanding halfback was J. S. Schofield, gave a needed impetus

The Drexel Lodge



to student interest in interscholastic athletics. To the same school year belongs the formal initiation of field and track sports at Drexel, in response to a petition circulated by J. S. Westney that recognition be given these sports. President MacAlister called a meeting of faculty and students, and favorable action was taken. Westney, supported by J. Peterson Ryder and two other members of the faculty, C. H. Wheeler and Oscar Schmidt, became captain of what may be called Drexel's first regular track team. Westney later captained track at the University of Pennsylvania and competed widely in this country and abroad.

Throughout this period, membership in the athletic association continued voluntary, and funds for interscholastic competition meager. Guarantees for games rarely amounted to more than half the railroad fare. None the less, the Drexel athletic program grew. Drexel competed in the interscholastic bowling league. In 1905 an Institute team ran in the University of Pennsylvania Relays; another played in the Manheim Cup Tennis League. For several seasons cricket flourished, and in 1907, Drexel, defending the Merion Cup, won eight games out of nine. In the same year a basketball club captained by J. Kugler won ten out of thirteen games. The year 1906-1907 marked success also in baseball and track, the latter coached by A. H. Nash, an Indian who, while at the Institute, had been a protégé of Mother M. Katharine Drexel. Event of the year following was the establishment of a scholastic record for the 220-yard dash in the Third Regiment meet by C. J. Buckfield and Doran Callahan. Field and track events have from the early years been Drexel's strength.

From 1909 to 1913 football was discontinued, for funds were short and Drexel had no field. The athletic picture was not wholly black, however, though an alumnus of the Institute in a descriptive letter affirms that the faculty and most of the students were too busy to bother about sports and that only the players knew what events were scheduled. While the state of football and baseball was low, Drexel teams competed in basketball, cricket, track, cross country, tennis, and bowling. In 1910 the track team under Captain H. B. Phinney was successful, as was the basketball team led by N. D. Fulton. And the same general situation prevailed in the next two years. In 1911 Drexel trackmen, Captain M. C. Manney, Phinney, J. R. Helms, and Andrew

Chesney won the city college relay championship. This is probably the earliest notable achievement of an Institute team in strictly collegiate competition. In the same year the tennis team played matches with Swarthmore, Rutgers, Delaware, and Pennsylvania Military College. Without regular courts of their own, Drexel students were given permission to use nearby courts of the Pennsylvania Railroad. Concerning the arrangement, one graduate writes, "this was not very satisfactory, because sometimes, after the squad had rolled and marked the courts, the railroad officials decided to play a few matches themselves, and we used the Fairmount Park courts." Revived in 1911, baseball, coached for a number of years by C. G. Dill, became the principal Drexel sport.

In 1911, Runnymede, the estate of Anthony J. Drexel in Delaware County, was opened to the students of the Institute for athletic and recreational uses. With grounds laid out for football, baseball, tennis, and track, the students of the Institute had, for the first time, adequate grounds of their own. For this provision the Institute stood indebted to Alexander Van Rensselaer, for many years president of the Board of Trustees.

To understand the desultory quality of Drexel's athletic story, it must be borne in mind that the Institute specialized in technical education. Such schools and colleges through the nature of their very exacting schedules are handicapped in entering competition with schools whose students are more lightly burdened. It should also be recalled that for nearly thirty of its fifty years, Drexel's position in education was neither wholly secondary nor wholly collegiate. The indiscriminate playing schedules, now with schools, now with colleges, and sometimes with free-lance competitors like the Manheim Spiders reflect the Institute's middle-ground position.

The instinct that prompted Drexel's early program was sound. It does not matter that the program was inconsistent, impecunious and loosely directed. What does matter is that Drexel students had the initiative to arrange their own matches without encouragement and without support. For years with only nominal official sanction they played competitively, and their play in its freedom and joyousness reflects what is best in the amateur spirit—the love of the game for itself.

Intercollegiate Beginnings: 1914-1920

Athletics became collegiate with the realization of Dr. Godfrey's plan to make day instruction collegiate. At the same time, competitive efficiency declined; for between 1914 and 1920 student enrolment dropped sharply as the result of the president's discontinuance of courses and departments which had no part in the plan. Decline of enrolment brought with it a corresponding decline of athletic manpower. The war years, too, adversely affected athletic programs everywhere. Yet Dr. Godfrey, in points of policy, did athletics a great service. Most important of these was his encouragement of competition with colleges and colleges alone. Realizing the need of funds and professional coaching for intercollegiate competition, he established a fixed student athletics and activities fee. As a stimulus to more general interest in athletics, he declared five half-holidays in the spring of 1915 to be spent at Runnymede. Drexel's sandlot and interscholastic days were drawing to a close.

In 1914 baseball, captained by S. Fisher and coached by C. G. Dill, played a complete college schedule, and so did track and tennis. Athletically speaking, the gap between school and college standing had been bridged in a single year. Besides its captain, each team had a student manager; paid coaches were provided for baseball and basketball, and occasionally for tennis and track. Varsity teams received adequate equipment; an active athletic association helped unify the program.

It would be pleasant to report that during the five years following, Drexel teams, playing under such favorable conditions, were successful. Actually, success was only moderate. The track team of 1916-1917 included A. L. Hisler, one of the best distance runners ever to carry Drexel colors, and had a notable year. But America's entry into the First World War affected Drexel's athletic program.

Football

The fall of 1919 marks the reinstatement of football, now upon an intercollegiate basis. The Strawbridge and Clothier athletic field at Sixty-third and Walnut Streets was leased, and equipment was provided for the squad. After preliminary practice

under Coach William Campbell and Professor E. J. Hall, assisted by Lieutenant J. P. Lyons, of the Military Department, and by A. H. Dill, the team came under the tutelage of W. L. Ridpath, graduate of Swarthmore College. C. H. Parker and E. T. White were respectively captain and manager of this eleven which played and lost four games. In other sports Institute teams were more successful, honors going, as usual, to track.

Early Professional Coaching: 1920-1927

In the fall of 1920 the first full-time paid coaching system was established at Drexel. W. J. McAvoy, sometime all-American full-back of Lafayette College, was appointed coach of major sports excepting track. McAvoy was capable and experienced; hence, if the anticipated results of his appointment did not show, the fault was not with him, but with the unalterable condition of education in a technical school. McAvoy had to find his material among engineering students, a task almost hopeless for any coach anywhere. A student seriously engaged in the exacting curriculum of engineering needs the rare combination of natural study aptitude and Homeric endurance if he is to meet the rigorous demands of both study and competitive sport. A difficult playing schedule doubled McAvoy's task. Drexel lost all games. In basketball, McAvoy produced a successful squad. During the year 1920-1921, Drexel joined the Central Pennsylvania Collegiate Track Conference; its team, managed by Andrew Hisler, turned in its usual distinguished performance. The year 1920 is also memorable for the introduction of a new minor sport, riflery. Coached by Lieutenant Lyons, the rifle team was sensationally successful. In this year, furthering the policy of extending the sports program, Drexel joined the Middle Atlantic States Collegiate Athletic Conference.

In the fall of 1921 McAvoy put a more successful football team on the field. Basketball and baseball had good seasons. Track, tennis, and riflery carried on capably. In the fall of 1922 McAvoy was succeeded by H. J. O'Brien. Like McAvoy, O'Brien came to the Institute a football celebrity. Like his predecessor, too, O'Brien knew the sports he was to coach. And like McAvoy, Coach O'Brien had to organize a football squad of engineering students weary from six hours of class and laboratory, reporting

late in the afternoon for whatever practice they could get before dark. The condition is inherent in the exacting schedule of the engineering student.

Though basketball, riflery, baseball, track, and tennis played through impressive schedules, the fall of 1923 saw football prospects gloomy. It was in this year that the notorious St. Joseph's College seven-year jinx first cropped up in Drexel's defeat by a touchdown. The event of the athletic year was Drexel's victory in the Pennsylvania Relays, at Franklin Field.

The fall of 1924 brought innovation to Drexel athletics in the establishment of a pre-season training camp for the football squad on the A. J. Drexel Paul estate near Wayne. In 1926 Drexel suspended for a year the full-time professional coaching system, returning to faculty coaches. Captain O. W. Reed, assisted by Lieutenant H. E. Kelley and Dr. E. J. Hall, coached football; Lieutenant Kelley and A. H. Repscha, baseball; Professor S. J. Leonard, track. The direction of basketball was assumed by Professor E. O. Lange.

SYSTEM AND INTEGRATION

1927-1941

In 1927 Drexel resumed the full-time paid coaching system. W. H. Halas, beginning 1927-1928, was made the responsible coaching head of football, basketball, and baseball. Halas, pupil of Coach R. C. Zuppke of the University of Illinois, sometime member of Knute Rockne's staff at Notre Dame, and professional baseball player, was well qualified for the post. Assisted by A. H. Repscha, Halas produced comparatively successful football and basketball teams the first season, but the baseball team, winning nine out of fifteen games, was really impressive.

In 1928 the football team captained by Reed Heckman won eight out of ten games. This season Coach Halas was assisted by Repscha and John Moore. A gymnasium in the newly erected Curtis Hall became available for basketball in January, 1929, and the Drexel varsity team did reasonably well on its new floor. In the spring Halas produced a successful baseball team, but in 1928-1929 football overshadowed all the other sports.

This athletic year was of note because of the appointment, in the fall of 1928, of W. J. Stevens, Class of 1926, as graduate man-

ager of athletics. Drexel now had for the first time an official charged with the unification and supervision of the whole athletic program, especially in matters of finance and public relations. His duties embraced schedules, supply of equipment, supervision of athletic grounds, training camps, advertising, and representation in athletic conferences. Mr. Stevens became the alumni member of the Faculty Council on Athletics, which guided and integrated the general athletic program of the Institute.

After a slow start the 1929 football team led by Leo Redmond, playing every Saturday from October 12 to November 16 inclusive, won six games in succession. On November 23 came a scoreless tie with St. Joseph's. The seven-year jinx was slipping. Tying Susquehanna for first place in the Central Pennsylvania Track Conference meet, Coach Leonard's team in the season of 1930 distinguished itself in other competitions.

In the fall of 1930 the Drexel Lodge at Newtown Square, made possible through the generosity of Mr. A. J. Drexel Paul, became for the first time available as pre-season training quarters for the football squad. A shift in coaching personnel brought to Drexel Rae Crowther, once famous Colgate player, replacing his brother Saville as line coach. The event of this season was Drexel's triumph over St. Joseph. Score: Drexel 16; St. Joseph 6. The seven-year jinx had ended.

The fall of 1931 was Drexel's most distinguished football season. Playing under captaincy of Michael La Bove, the eleven won seven games out of eight. The success of other teams, with the exception of baseball in the following spring, was moderate.

No account of athletics at Drexel would be complete without affectionate acknowledgment to the memory of Dean J. Peterson Ryder, whose death occurred on January 7, 1931. Dean Ryder was for many years the strength and guide of Institute athletics. It is true that his first interest, especially in the earlier years, was physical education rather than competitive sports; but it is also true that Drexel boys who desired to play games seldom failed to receive his help. To forward athletics Dean Ryder gave freely of his money and of himself: at the time of his death he was treasurer of the Athletic Association and member of the Faculty Council on Athletics. On November 29, 1931, the Institute was further saddened by the news of President Matheson's death. In the pass-



A. J. Drexel Paul

ing of Dr. Matheson, Drexel athletics lost a sponsor whose interest never wavered. Often during practice and always at games Dr. Matheson followed from the sidelines the fortunes of his "boys" on the field.

Real and deserved credit has been accorded to Coach Walter H. Halas and his assistants, Repscha, Moore, Crowther, and others. It remains to analyze the impersonal factors of administration and enrolment which have made possible the systematic athletic programs of the present day.

President Matheson's support of intercollegiate athletics, notably football, has been cited. In the winter of 1924, at Matheson's insistence, a Men's Athletic Council, composed of faculty, students, and alumni, was formed. Out of this body later evolved the Faculty Council on Athletics, charged with responsibility for all athletic matters involving disbursement of money. Professor Dawson Dowell was chairman of the Faculty Council; and the president of the Institute, *ex officio*, Deans Ryder, Wagenseller, and Stratton, Directors Kapp and Spivey, Professors Gould, Davis, Halas, and Stevens were for many years its members. Business Manager H. J. Budd became a member in 1939. The personnel of the body remained substantially unchanged until 1941, when it was superseded by the newly constituted Athletic Council of Drexel Institute of Technology.

An important factor in the improvement of Drexel's athletic showing between 1927 and 1933 was the remarkable growth in student enrolment in all divisions of the Institute. Suffice to say that after the revival of football and before 1926, fewer than 30 men were enrolled in all of the commercial courses in any one year. By 1931-1932, the number had become 282. In 1922, all fifteen football lettermen were in Engineering; in 1933, nine out of fifteen lettermen were in Business Administration. Hence, by 1927, the day had passed when sports at Drexel were wholly dependent upon material drawn from the School of Engineering. Business Administration supplied men with somewhat lighter schedules, and correspondingly greater opportunity for practice.

The addition of Drexel Lodge met permanently and suitably the recreational needs of students in general and athletic teams in particular, notably football. The importance of the graduate managership has been noted. Mention must be made of the in-

crease in funds for athletic teams in the period now under review. With the rapid growth in enrolment and the expansion in sports, the hand-to-mouth policy of earlier years disappeared. Although lavish spending was never a part of Drexel's athletic policy, greatly increased revenue from fees, games, and other sources made possible expenditures which, by earlier standards, were generous.

As a part of the present analysis, the brief and not wholly happy experiment with athletic scholarships deserves passing mention. Created by the authorities of the Institute, these scholarships were for a short time available to students from Philadelphia and suburban schools. They did bring to Drexel athletically gifted men; but in a few instances they brought men who never should have come. Athletic scholarships, and the ironies which often accompany them, were short-lived at the Institute.

For 1933-1934 the record in football remained good, that of basketball and baseball less so. The showing of the track team evened the balance somewhat; and tennis, coached for the first time by K. G. Matheson, Jr., improved. Formed in this year was the now dissolved Pennsylvania Intercollegiate Eligibility Conference. In 1935 Rae Crowther resigned. E. O. Lange replaced Halas as coach of basketball, and L. P. Mains succeeded Repscha as coach of freshmen. Coach Leonard's track team, captained by Thomas Lockart, for the third time won the Central Pennsylvania Track Conference meet, Class B, thus retiring a trophy. Riflery, coached by Lieutenant F. M. Harris, and tennis, coached again by Matheson, enjoyed a distinguished season. The year, notable for marked diversification of intramural sports, witnessed the initiation of Dad's Day on the football schedule. Alumni Homecoming Day and Migration Day were to follow. M. H. McMains replaced Crowther on the football coaching staff.

After a tentative beginning in 1935, Drexel began competitive cross country running with moderate success. In the spring of 1937 the track team defeated Swarthmore for the first time in Drexel track history, and later won the Eastern Pennsylvania Collegiate Conference Meet, Drexel's W. L. Berlinghof setting a conference record in the 220-yard low hurdles.

The athletic year 1937-1938 opened with promise. Football, captained by G. M. Baker and W. G. Graf, won the Eastern

Pennsylvania Conference championship, defeating Franklin and Marshall in one of the most spectacular games in the annals of Drexel sports. Concluding its season with Swarthmore, an overconfident Drexel team suffered a defeat which was more amusing than humiliating. Feature of the spring season was Coach Matheson's tennis team, which won the Eastern Collegiate Athletic Conference championship.

In 1938-1939 Drexel's athletic fortunes declined. The football pace of 1937 slackened; basketball experienced a black season. Results in track and tennis were fair; those in baseball, very good. The year saw changes. R. E. Chase, sometime All-American at the University of Pittsburgh, helped coach football. Drexel terminated its membership in the Eastern Pennsylvania Collegiate Basketball League, and Professor Lange resigned as coach, Professor Mains, coach of freshmen, succeeding him. After a decade as Graduate Manager, W. J. Stevens withdrew, and H. J. Budd was elected to the newly created office of Business Manager of Athletics. During the year the Trustees purchased a site for an athletic field near Sixty-ninth Street and Marshall Road in Upper Darby, for at that time Drexel's tenure of its present field appeared uncertain.

Generally undistinguished in major sports, the athletic record between 1938 and 1941 merits no detailed recital. In 1940 ice hockey, sponsored by Professor Dowell and H. R. Bintzer, was successfully introduced on the roster of Drexel sports; and in 1941, under Coach McMains, the Institute's first lacrosse team took the field.

The old Faculty Athletic Council, in existence since 1924, was dissolved in 1940; and in the spring of 1941 the formation and personnel of the Athletic Council of Drexel Institute of Technology was announced by President Kolbe. This body, vested with broader powers and representative of wider interests, comprises Professor Dawson Dowell, chairman; H. P. Liversidge and L. L. Biddle, trustee members; W. R. Wagenseller and C. A. Kapp, faculty members; C. W. Smullen, alumni member; John Mirsch, student member. Under a provision of the Council, the student member will always be the president of the Men's Student Athletic Council.

Reviewing the progress of Drexel athletics, one sees sharp con-

trasts in system, but little change in the spirit of competitive games. What began as a school has become a college; what were boys' games have become young men's games, ruggedly but honorably played for the sake of sport itself. Thanks to the influence of Dr. Matheson and Dr. Kolbe, both unbending in their advocacy of clean intercollegiate amateur sport in which the player is the ward of his college and not its sacrifice, the present is secure in that tradition.

CHAPTER FIFTEEN

THE ALUMNI

IN TRACING the progress of the Drexel Institute Alumni, there are several unique features of Institute organization which must be called to mind. First of these is the original constitution of the Institute into eleven separate departments, later eighteen. The traditional autonomy of these tended to restrict alumni interest to the departments alone. Besides, MacAlister, though anxious for a unified alumni body, had by the nature of his duties to devote first energy to the problems of the student body. In 1895 both departmental and general alumni associations existed, but their first course was necessarily a groping one, and with the Institute-wide reorganization of 1913, the several associations stood bewildered.

When in 1913, eighteen departments were suddenly merged to form three schools and Drexel became collegiate in the day and remained vocational in the evening, departmental alumni organizations no longer corresponded to the divisions of the Institute. By 1913, several thousand had taken certificates or diplomas, and many times that number had attended single courses. What good would come of the reorganization was hard to discern at the time, both by those in the thick of it and by the thousands of Drexel alumni removed by time and distance from it.

Not until 1923, ten years later, had the Institute clearly defined its future place and future course. It is significant that from that year may be dated a growing solidarity of the alumni body. Of the active interest and loyalty of the Drexel alumni there can be no question. Activity during the endowment campaign of 1924 is evidence enough. Since 1923, the enlargement of alumni loyalty from the limits of department or school to the Institute as a whole is witnessed by the vesting of total authority in the single General Alumni of Drexel Institute. The history of alumni consolidation may be stated in sum, therefore, as a history which is parallel and interpretable in terms of a growth with the Institute out of departmental autonomies into a general administrative autonomy,

an achievement fully realized by the late twenties, and firmly established since.

EARLY ALUMNI ORGANIZATIONS

1895-1906

The salient feature of the first constitution of the Drexel Institute Alumni Association lies in the fact that the alumni operated under very close faculty supervision. The first Association was formed in 1895,—second year of Drexel's graduating classes, and MacAlister viewed it as little more than an organization for advanced study. There was justice in his view, for many graduates were only sixteen or seventeen years old. The constitution itself is worth analysis, for in it lie the precedents for much of Drexel's later alumni activity. Alumni spirit, though soon permitted free expression, followed in substance the original organizational plan.

Membership in the Association of 1895 was open to all former students who held diplomas or certificates for one full year's work in a regular course. Initiation fees were to be reserved as a memorial fund; annual dues were one dollar. MacAlister's care for efficient faculty administration of the Association is clear from the following provisions of the constitution:

The officers of this Association shall consist of a president, general secretary, a general treasurer, and a secretary for each department; also a general executive board, composed of the above officers, together with the President of the Institute and the Director of each of the departments. Department Boards, composed of the Department officers, together with two members of the alumni, the Director, and one instructor from the department shall govern the Department Alumni.

Both initiation and annual dues were paid to the general treasurer, with allocation of funds to the departmental alumni groups. Provision for a memorial fund was, of course, a forerunner of generous later contributions on the part of alumni in the form of loan funds and scholarships.

In September, 1895, the constitution and by-laws were drafted and sent to President MacAlister for approval. The President gave the Association his cordial support. Faculty members particularly interested and active at the time were Miss May Haggenbotham, Mrs. Caroline Hall, and Professor F. W. Speirs. All graduates of

the Institute were requested to be present at a first general meeting on November 19, writes the *Eccentric* of 1896, and at that meeting the constitution was adopted. Officers for the year were elected, Charles E. Bonine, '95, holding the honor of being elected first alumni president.

One of the earliest records of alumni activity occurs in a statement made by Samuel R. Maxwell, dated November 19, 1895:

"Pleasure through Culture." This motto has formed the keynote of the Constitution and has led to the plan of holding bi-monthly meetings in the various departments where topics of the most vital importance and interest shall be discussed. We have striven to establish our Alumni as something more worthy of Drexel Institute than a mere dining society though this feature must not be disregarded. In brief, we have endeavored to constitute an Alumni which shall have embodied in it the essence of long life and prosperity. The organizers are only human, and the Constitution is by no means faultless, but we hope that in the main you will look kindly on our efforts, and join in making our Association worthy the noble name it bears.

Suggestive also of the early Alumni Association's purpose is a note in the *Eccentric* of 1896:

The Alumni's avowed purpose is to make continuous the studies started in the school, and thus originate a true source of helpfulness among the past students. It will endeavor, by whatever means lie in its power, to assist all graduates to that end. . . .

The social feature of the Association shall be promoted to as great a degree as possible where a body of people are so widely scattered. The commingling of those filled with a like intent cannot fail to be beneficial to all concerned and to win loyalty to the Alumni. . . .

The ancient and honorable custom of having all the graduates of a school dine together once each year has reverentially been incorporated in the Associated Alumni of Drexel Institute. This is to be our gala time.

Education as the prime function of the Alumni Association had won general acceptance by the following year. By 1896 eight departments had been organized, and a botany class established, with a debating club in prospect. Nearly a hundred members had enrolled on the Association's books. Forerunner to a later development among the alumni of activity in student affairs was their

plan in 1896 to offer scholarships and prizes. There was talk, even so early, of an alumni publication.

By 1899 President MacAlister had withdrawn close faculty supervision. In reply to a letter from Mr. Walter S. Ritter, later president of the Association, MacAlister gave permission for the use of the Court to the Associated Alumni for a social gathering and dance Tuesday evening, December 26. He made a characteristic stipulation: that a sufficient number of patronesses be present; and he referred Mr. Ritter to Professor Parke Schoch, who was then in charge of such arrangements.

The inclusion of social diversions in the alumni program in no way supplanted the first intention that alumni and faculty sponsor continued study. In addition to courses arranged for alumni in botany and public speaking, language classes were conducted from 1896 to 1903 in French, German, and Spanish at special rates to members.

In 1900, MacAlister submitted to the Board of Trustees a statement showing returns from graduate students who had gone to work, with details of employment, and asked authority to print it. In a letter dated May 19, 1900, he writes:

We are now printing a Register of Graduates giving full particulars as to all the graduates of the Institute. I should like to add at the end of the Register a short statement concerning the Alumni Association. What I desire is a list of the officers for the present year. I want to state also that at the close of each year the Association gives a reception to the graduation classes. This should be on a fixed date, and it might be just as well to use the one you have selected for the present year. Will you please send me that date. As the Register is now in press, I should like this information at the earliest possible moment.

The Register of Graduates of 1900 announces itself as of annual issue; actually, no new register appeared until 1928.

Close organization of alumni was difficult. Conditions inherent in intensive vocational training discouraged strong community of interest. In 1904, only 265 graduates had become members. Certainly, no effort was spared to enlist active alumni interest. Invitations to membership were extended to each graduating class, receptions were held prior to commencement, and entertainment arranged during the winter. Reads a quaint note of 1904: "a Progressive Pit Party was held with prizes for both ladies and gentle-

men, and chocolate straws as refreshments. A reception followed, with fruit punch." Alumni response proved discouraging. Replying to a letter from J. Nelson Dick, then president of the Association, MacAlister writes on October 12, 1905: "I learn with great regret of the condition into which the Alumni Association has fallen. I am deeply interested in the maintenance of such an organization, and will do everything in my power to place it on a better and permanent basis. . . . I should feel it a great loss for the organization to become extinct."

The Constitution of 1906

As a feature of the commencement of June, 1906, a reception was held for alumni and graduates. An evening assembly met in the Auditorium to effect a new alumni organization. Some light is thrown upon the failure of the old by comments made by MacAlister, Professors Schoch, Rowland, and Gummere, Mrs. Hall, and Miss Shaffner, all of whom had been active in alumni affairs. The provision for faculty participation in alumni affairs in the charter of 1895 had defeated itself. Neither faculty nor alumni had felt administrative responsibility. The sense of the meeting was that if each director or teacher in charge would coöperate with the graduates in organizing strong departmental units, greater success would attend the new association. The subjoined brief of the new constitution adopted June 5, 1906, shows a marked departure from that of 1895. The alumni were henceforth autonomous.

The stated object of the Associated Alumni was ". . . to promote the best interests of the Institute; to strengthen the tie between the Institute and its graduates; and to further the welfare of the individual members by co-operative effort." Active membership—that classification privileged to vote and hold office—was open to all persons who had received diplomas or certificates for one full year's work in a regular course. Honorary members might be elected by a two-thirds vote of members present at any annual meeting, but paid no dues, and neither voted nor held office. Eligible as associate members were those who had completed two winters' work in the evening classes, or nine months' work in any day course. Like honorary members, associate members could neither vote nor hold office.

A provision which so restricted Evening School students to

associate or inactive membership is important in the history of Institute-Alumni relations. Assuredly, even though amended in 1908, it must have been one factor which decided evening alumni to form a separate group in 1910.

Association officers, annually elected, were president, a vice-president from each department, recording and corresponding secretaries, and treasurer. These constituted the Executive Board, which ". . . shall have entire charge of the business interests of the Association. No debts shall be contracted, except by its authority, and all expenditures shall be paid by orders on the Treasurer, signed by the President and the Recording Secretary. The Executive Board shall fill all vacancies in the elective offices of the General Association."

The Association was divided into the following department groups: Engineering, Mechanic Arts, Specials in Science; Mechanical Drawing and Machine Construction; Commerce and Finance; Junior Domestic Science and Arts; Architecture, Domestic Science; and Library School, Domestic Arts. Each department might draft its own rules and regulations, provided they did not conflict with the Association constitution and by-laws. Annual dues were payable to the treasurer of the Associated Alumni. Each department might draw on the treasurer in any one year to the amount of thirty per cent of the dues received from its members of that year. One half of the first year's dues from each new member was to be added to the original memorial fund, a sum whose purpose was to be decided by a three-fourths vote of members present at an annual meeting.

Annual meetings were to be held during commencement week, as well as special meetings on occasion, and one or more social meetings during the year. A notable feature of the constitution is provision for a life membership, all money receivable from such membership to be invested in a permanent fund. The income of the fund was to go into the general fund of the Association during the life of the member, and at his death the principal was to be added to the memorial fund. This provision has remained constant in subsequent constitutions, and has made possible substantial support for student loan funds. Allocation of dues through the treasurer of the Alumni Association gave all departmental alumni groups equal incentive to activity. The soundness and

wisdom of the reorganization is witnessed by the slow but progressive growth of the Association from 1906 to 1912, the year before the reorganization of the Institute under Dr. Godfrey.

June 4, 1907, the first Alumni Day after the new constitution was in force, was very successful, and was signalized by a meeting of the general Alumni Association in the evening and a reception later. Increasing interest of the graduating class in alumni activities was evidenced in this year by the announcement that the Class of 1907 Engineers would in future offer a gold medal to the man graduating with the highest average. "The Class of 1907 Engineers, who have been active in various directions throughout their life at the Institute, are the founders of this Fund, and a medal will be awarded annually thereafter for similar qualifications. There are no provisos, and any member in the Senior Class in Engineering is eligible. . . ."

This announcement, published in the *Echo* for June, 1907, later in part an alumni organ, marks the first of Drexel Institute's alumni awards, awards made annually since 1908. An interesting feature of the history of the fund, and one expressive of the affection in which one of the Institute's most distinguished organizers was held, was the award to Arthur J. Rowland. In 1917, the year in which the engineering courses were extended from three years to four, there was no graduating class. Decision was accordingly made that the award be made to Dean Rowland, in acknowledgment of "his devotion and personal friendship which was appreciated by all the members of the Class of 1907." Note of the event occurs in a letter from Mr. Franklin Buckingham, '07, who adds, "I can well remember that I considered it personally a rare privilege to have had the opportunity of making that award. I have often felt that no one influenced my life more than Dean Rowland, and always for the right."

ALUMNI-STUDENT LIAISON

1907-1912

In 1907, the *Echo* added a section for the now active Association. President MacAlister continued to sponsor proposals on the part of the Associated Alumni to use the Institute as its gathering place. Reporting on the special Alumni Day held June 10, 1908,

the *Echo* shows a trend which foreshadows the attenuation of departmental groups in favor of the more general body:

Now indeed is it possible for us to realize the latent strength of this comparatively young body, and the enormous force it could exert were its various departments to cohere yet more closely. The *Echo* by reason of the big alumni department it has maintained the past year has been a great help to the Alumni Association and the editor is constantly receiving letters from prominent graduates expressing the highest commendation of our paper.

The work of the Alumni Association during the years 1908-1912 is especially to be commended as the Institute was able to extend it no financial help as it has in more recent times. The extent of Institute help, owing to the constant pressure of enrolment and call upon funds, was necessarily limited to meeting space and placement service, though alumni never made extensive use of the latter.

In spite of financial handicaps, the Executive Board of the Associated Alumni for the year 1909-1910 arranged for publication of Alumni Notes in the *Echo*; gave a Society Show at the Institute on January 14, 1910; offered a gold medal for the most popular words for an Institute song; a medal for the music as well; gave financial assistance to the Thespians; and attempted to consolidate the departmental bodies under a general association. In its report it expressed special thanks to Dr. MacAlister and to Professors Rowland, Gummere, Ryder, and Henwood for their active coöperation in alumni work. From a note in the report, one gathers that prior to arrangements for publication and distribution of alumni notes in the *Echo*, announcements had been posted on an alumni bulletin board at the Institute.

Further evidence of activity among alumni was the request for representation of the Alumni Association on the Students Advisory Committee. Clearly the alumni realized the importance of interesting undergraduates in alumni activity. Replying to the request, President MacAlister referred the matter to Professor Gummere, then chairman of the Faculty Committee, and active in alumni affairs. "You are quite right," affirmed MacAlister, "in aiming to consolidate all the department associations in the general alumni organization."

The *Echo*, in an article on alumni progress dated January, 1910, urges a fuller realization of the importance of the Associated Alumni: "The strength of any institution is measured directly by the strength and active interest of the alumni." The writer outlines as reasons for growth the dual provision of membership both in the departmental and in the Associated Alumni at a single fee; and the breaking down of barriers between graduate and undergraduate groups through mutual interest in each other's activities, a condition which the publication itself illustrates, as noted in the issue of November, 1910:

Within the present year, the Associated Alumni of Drexel are preparing the way for a greater organization by adopting as their official organ the *Drexel Echo*. It has long been proposed to run a separate alumni paper as a medium of communication between graduates, but the Executive Board after carefully going over the situation decided that the undergraduates' monthly was well fitted to supply the publicity work of the alumni and further keep them in touch with the progress of the Institute. Each member of the Associated Alumni will therefore receive a copy of the *Drexel Echo* each month during the college year and every one is urged to send interesting items to the editor, for publication.

It was in November of this year that the Executive Board asked the Trustees for an appropriation, to be taken out in subscriptions to the *Echo* for the benefit of old graduates of the Institute. The grant marks the first instance of Institute subsidy to alumni activity.

Though not strictly belonging to the Alumni Association, the Drexel Club of Engineers, organized in 1910 by ten men of the School of Engineering, did much to foster undergraduate-alumni relationships. Among other group activities, the Club sponsored an annual minstrel and dance, which appears to have been exclusively undergraduate. Interest in Institute plays, notably by the Thespians, an alumni organization, was shared for a time by both alumni and undergraduates. In January, 1911, for example, the Associated Alumni presented at the Institute a play entitled "The Sophomore" by Edwin Bateman Morris. The Thespian Club had before this made undergraduates eligible for membership with the privilege of participation in all plays.

Constitution of 1912-1913

In spite of the activity of the officers of the general alumni, by 1912 the effect of departmentalized interests again proved too strong. In that year the Executive Board proposed reorganization under a new constitution. Under the plan the Executive Board comprised three delegates from each department association, and although the Executive Board retained the power to outline the policies of the departmental associations in a broad sense, fiscal power was transferred to the departmental groups. The program for Alumni Day, June 3, 1913, outlines the new organization:

The Alumni Association of Drexel Institute consists of the various departmental alumni associations, except that of Domestic Arts, banded together by an executive board of three delegates from each department association. This executive board holds regular meetings for the special purpose of helping the department alumni organizations to secure unity of purpose. Each individual alumnus pays annual dues to the department organization only. At the annual meetings, in addition to the election of their own officers, the three delegates referred to above are chosen.

Percentages of the dues were allocated for the support of the general association; thus, the general association found itself dependent upon departmental dues, and the outcome was a division within the general alumni in 1918. The result was the virtual cessation of that body for over three years. Even in 1913, the departmental alumnae of Domestic Arts were not represented in the general Association and, as shall appear, this alumnae group, with that of the department of Domestic Science, became in 1918 open in its criticism of Institute policy.

THE ALUMNI AND THE INSTITUTE

1914-1922

It was by unfortunate coincidence and one not to be foreseen either by the incoming administration or the Association itself, that at the very time an intramural consolidation of departments was in prospect, the consolidation of alumni, as represented in the general association, had just been voted out in favor of departmental alumni associations. The result was a situation very

difficult to reconcile. President Godfrey, absorbed in the problems of making day instruction at Drexel collegiate, and preoccupied with his federal duties, was perhaps less acutely conscious than he might elsewhere have been of the intangible values accruing to the Institute from active alumni interest and good will.

On the other hand, the transfer of power in 1912 from the Alumni Association to departmental alumni organizations crippled the general alumni body. In spite of the appointment of Arthur J. Rowland as Dean and his great personal influence and popularity both with administration and alumni, relations between the alumni and the Institute from 1913 to 1922 continued strained. There was a confused feeling among alumni of the earlier classes that in reorganizing upon the collegiate basis, day instruction at Drexel was departing from the original intention of the Founder. During the annual dinner of the Alumni Association of June 6, 1914, changes were recommended in the organization of the Association to correspond with the reorganization of the Institute. A sharp cleavage of opinion followed.

The suggestion that the Alumni Association might best aid the Institute by obtaining the names of good possible students and in obtaining positions for graduates, though later realized, appeared at the time to suggest a removal of active alumni from immediate Institute affairs. Cool, too, was the reception accorded the suggestion of alumni that the Athletic Association be supported by increase of student fees. The administration was too absorbed in raising standards of scholarship to concern itself very greatly with athletics. But in spite of some estrangement between the Institute and alumni, the Domestic Arts alumnae by 1915 did enter the fold. In that year, the following report of official alumni organization appears:

The graduates of the Drexel Institute are organized into three department alumni associations, corresponding to the three schools of the Institute, namely, the Domestic Science and Arts Alumnae Association, the Engineering Alumni Association, and the Secretarial Alumni Association. . . . These three separate departmental associations are joined by an Executive Board, composed of five delegates elected from each departmental association. This Board is called the Alumni Association, or Alumni Council, meets about once a month, and the representatives from the various department associations tell what has been done in the associations which they represent. Then they report

to their department organizations what has been done in the Board meeting. . . .

The department associations conduct all affairs of a social nature except the annual dinner. They collect all dues and contribute a proportionate amount to the support of the Alumni Association. . . .

By 1915, therefore, the constitution of 1912 had been amended, and alumni sympathetic to the general policies of the new administration had grouped themselves in accordance with the reorganized Drexel. That many were not sympathetic, however, appears from a letter dated January, 1915, and sent to 3,000 alumni, with an urgent request for members and for payment of dues. Another letter from Mr. Howard Denn, then president of the Association, to the Board of Trustees suggests that disaffected alumni, forming a committee of their own, were making statements in the public press; but that these were not active members of the official association.

The cleavage within the alumni body continued until 1921, in spite of the fact that Denn announced in a note of March 25, 1916, that a dual membership provision existed: active members—those who paid dues; and associate members—those who did not; and that Drexel accorded to her alumni the privilege of enjoying Runnymede during the summer months.

The division resulted in part from a general confusion current among alumni in matters relating to the new Institute policy, and in part from lack of sympathy with the reorganization itself. A letter to all alumni dated January, 1917, explains once again the organization of alumni by schools under a general aegis of Associated Alumni, and points out that the work of the general Association is carried on through appropriations from the Institute. As added incentives to join as active members, it points out the privileges of the use of Runnymede in the summer, and the circulation of the Drexel Institute *Bulletin*, a weekly pamphlet of school and alumni news.

Repeated correspondence drew little response. On May 2, 1917, the Board of Directors of the Associated Alumni voted to cancel the alumni dinner scheduled for June because of war conditions. In November of that year, another joint notification was sent by S. Duffield Hopkins, Jr., president of the Associated Alumni and Adeline C. Thomas, president of the Domestic Science and Arts

Alumnae to explain again the organization of the Association. It also contained notes on the plans for celebration of the twenty-fifth anniversary of the Institute; on the power to grant degrees recently accorded the four-year course; and upon the possible use to be made of the memorial fund, now grown to a substantial balance. Requests were made for suggestions. Some alumni felt that the fund should be applied toward prizes, others that the income should be used toward a scholarship or student loan fund. The letter points out that alumnae of Domestic Science and Arts have from their own treasury advanced money to students of that school for several years.

It is not to be supposed that the confused state of alumni-Institute relations at the time was indifferently viewed at Drexel. A memorandum—problematically of 1917—is evidence that, on the contrary, the administration prepared a very careful analysis to determine in some measure the cause and possible remedy. A calendar of its contents is revealing:

Since the Institute began, 61,568 students have received instruction at the Institute: 901 as regular students for one year's work of college grade; 2,063 as regular students for two years' work of college grade; 1,232 for three years' work of college grade; 137 for four years' work of college grade; 6,498 have been regular students of high school grade.

50,737 have been extension or evening students, the nature of whose contact with the Institute has been that of work alone.

Conferences with officers in charge of alumni matters of a group of colleges show a general belief that two years of college life is minimum alumni background.

This seems borne out by a recent response of only 193 alumni to 3,000 cards sent out to the alumni of the Institute. In another attempt of equal scope seeking notifications of positions available for graduates of the Institute, there was less than 10% response.

Moreover, policy determined by consensus of Trustees and major faculty has met with public opposition on the part of the alumni. These disagreements appear to be inherent in the composition of the alumni due to a situation inseparable from much of the Institute's work—that many of the students have little to do with the life of the Institute.

The tone of this memorandum, undated and unsigned, is that of a harassed man, and suggests something of the method recom-

mended by Franklin in his *Autobiography* of balancing asset with liability. Unfortunately, this memo arrives at no conclusion.

Petition of 1918

The factors which made for misunderstanding between alumni and administration have been analyzed. The inevitable sequel of centralized Institute on the one hand and a decentralized alumni on the other reached its climax when in 1918 certain of the alumni presented a petition to the Board of Trustees which charged that the policy of the administration had set the Institute's actual service at variance with the Founder's principles, and that boarding houses for students lacked adequate supervision by the Institute.

In response to this petition, immediate action was taken by the administration to bring the boarding places of students under official Institute control; leases upon such places of residence were undertaken by the Institute, and resident supervisors installed. To the first part of the petition—that Drexel no longer served the intention of her Founder—the Board replied in the following resolution:

The Board must deny that any change has been made in the policy of the administration which has made it at variance with the Founder's principles. Such changes as have been made and such departments as have been abandoned, have had the most careful consideration of the Board, and the changes have been brought about by the changed conditions which have arisen in the educational facilities of Philadelphia since the founding of the Institute. The adoption of modern methods was deemed necessary in order to keep the Drexel Institute in line with the times.

The great advantage to the graduates of the Institute arising from the right which has been acquired to confer degrees, is a most important addition to the value of the Drexel diploma in obtaining employment for the Drexel graduates.

There has been no intention in any way to sacrifice the technical school in an endeavor to establish a college with the traditional academic courses, nor have any such courses been started. . . .

Retrenchments, due to war conditions, in the expenses of the Institute were absolutely necessary in order to conserve the endowment fund, and preventing the Institute from running into such debt as would in the course of time seriously impair its usefulness. . . .

In spite of a concluding section of the resolution, which called

upon alumni and friends of the Institute for support in guiding the Institute safely through the war crisis so serious for all educational bodies, the response of the bewildered alumni to the administration could only be silence. Alumni-Institute relations, begun at cross-purposes, awaited the diplomacy of a more serene and untroubled day.

ALUMNI CONSOLIDATION UNDER PRESIDENT MATHESON

1922-1931

The presidency of Dr. Kenneth G. Matheson marked the beginning of the present consolidated alumni of Drexel Institute. The first administration of the Institute—MacAlister's—found itself absorbed with organization. The establishment of Drexel's place in the Philadelphia community took priority over alumni affairs. Similarly, the second administration—Godfrey's—preoccupied with growth from secondary to collegiate status, relegated alumni interests to second place. To President Matheson fell the task of establishing general equilibrium. His recognition of the importance of alumni support and experienced alumni guidance found expression in the election to the Board of Trustees of Horace P. Liversidge, a distinguished graduate of Mechanic Arts, class of '97, who accepted the invitation in 1922; and later of Edward P. Simon, Evening School Architecture '00, elected in 1929. Subsequent members of the Board drawn from earlier Drexel classes are Robert F. Runge, Mechanical Drawing, '06, elected in 1936, and Charles Warner, Special Engineering 1896-1899, elected in 1939.

Speaking before the Trustees on December 21, 1922, President Matheson referred to alumni developments and announced that the formation of a general alumni association comprising all departments of the Institute was then in progress. On January 10, 1923, a committee met to consider informally plans for reorganization. Dr. Matheson and J. Peterson Ryder represented the Institute; Mr. H. H. Denn, former alumni president, Mr. Horace P. Liversidge, and Mr. L. R. Young, the Engineering School; Miss Mary E. Hanna, Miss Alice A. Johnson, and Mrs. D. A. Tucker, the Department of Home Economics; Miss Martha K. Coplin the Library School; and Miss Clara Hake and Miss Isabel Blackburn the Secretarial School.

The advisability of disbanding the separate groups and of forming a general alumni association was discussed, but the time for that had not yet come. It was agreed that the units keep their separate organizations but hold concurrent membership in the general alumni association. On motion of Mr. Liversidge, it was voted that each president hold a meeting of his department alumni and delegate two persons from each to select in committee nominees for the offices of the Drexel Institute Alumni Association,—president, vice-president, secretary, treasurer, and a Board of eight members, two each from Engineering, Home Economics, Business Administration, and Library School. The object of the Association was stated as the furtherance of the work and interests of Drexel Institute, and to assist in every way possible in the actual work of the Institute. Dr. Matheson emphasized the need of the Association as an aid to the growth and development of the Institute, in anticipation of an eventuality which has since come about, alumni consultants to work for a carefully chosen enrolment.

Early in 1923, H. H. Denn sent out notifications of an alumni dinner to be held June 16 in the Great Court: "The Drexel Institute Alumni Association has been reorganized . . . since January the first. The Board of Trustees and President Matheson are looking to the Alumni Association for help in this reorganization period and we must respond to the call with every ounce of our strength. . . . The new officers will be installed at the dinner."

Constitution of 1923

The constitution of 1923 transferred to the general association responsibility for collecting the dues. Annual dues were increased, and the life membership retained. Departmental organizations were authorized, but were urged to operate without dues so that their members might have added incentive to join the general alumni. The Executive Committee comprised the president, vice-president, treasurer, recording secretary, alumni secretary, and three elected representatives from each school then in operation—Engineering, Home Economics, Library Science, and Secretarial. This section was later amended to include also past presidents of the Association and presidents of local alumni groups; but the

constitution as a whole stood without substantial change until June, 1939.

One of the most interesting and constructive features of the new alumni organization was the equal distribution and joint coöperation of members of the earlier and later Drexel classes. The new president was Charles E. Bonine, Mechanic Arts '95, who had in that year been first alumni president. Miss Mary E. Hanna was elected vice-president; Miss Caroline B. Perkins, treasurer; and Miss Una Sudell, recording secretary. Mr. H. H. Denn, '01, who had taught at Drexel from 1901 to 1917, and in the Evening School from 1906 until 1923, became alumni secretary on a part-time basis. The school delegates to the Executive Committee were, for Engineering, Horace P. Liversidge, Harry C. Atkinson, and H. H. Denn; for Home Economics, Esther Steiger, Alice Hyde, and Mary E. Hanna; for the Library School, Marion E. Stanger, Katherine M. Trimble, and Mary P. Farr; and for Secretarial, Isabel Blackburn, Frank G. Hood, and Lucia P. Dill.

Publication: Alumni Clubs

In August, 1923, occurred the long-awaited publication of an *Alumni Bulletin*, a strong factor in the development of alumni clubs, a beginning of which had already been made in New York, Washington, Pittsburgh, and Baltimore. On August 31, 1924, steps were taken toward the formation of a Delaware Alumni Association. On this occasion the endowment campaign was discussed, and Dr. Matheson outlined the work being done at Drexel and his anticipated program for the future.

In June, 1924, Mr. Denn, who had served Drexel both as a teacher and sponsor of alumni activities so long and so faithfully, resigned his office as Alumni Secretary as a result of ill health. He was succeeded in January of 1925 by Miss Harriet E. Worrell, graduate in Commerce and Accounts '09 and Normal Domestic Science '15, and since April 1, 1924, secretary to President Matheson. It may here be said that no one in the history of the Institute has exerted a greater or more constructive influence toward alumni good will and consolidation than Miss Worrell, to whose qualities both personal and administrative the formation of most of Drexel's thirty-seven active alumni clubs is owing. The value of her services has been repeatedly and graciously acknowledged

by Dr. Matheson and Dr. Kolbe. In keeping touch with alumni, in the formation of alumni lists, in the organization of alumni clubs, in the publication of the *Drexel Alumni Review*, in the organization of alumni placement, and in all matters relating to alumni affairs her interests and her activities from 1925 until her resignation as Alumni Secretary in 1939 were untiring.

Miss Worrell, in a report of alumni activities, summed up the general policy of the Executive Committee of the Association: they have "endeavored to balance the budget and provide scholarships, loan funds, and in other ways support Drexel. It was felt . . . that it was of primary importance to keep our alumni informed on the progress made by Drexel, and to solicit information on the standing of our graduates, and in this way secure their coöperation in acquainting desirable students with the courses offered at Drexel. . . ."

To further these objectives, every effort was made to bring alumni mailing lists up to date; the Trust Fund was used to purchase files for a master card file on which all alumni records were transferred; new alumni clubs were encouraged in other cities; and all alumni were urged to return for reunions. Repeated grants were made by the Institute, and loans as well to the funds of the General Alumni.

A United Alumni

By 1930 the Institute and the alumni, drawn together by the common objective of adequate endowment and working toward a clearly stated and clearly understood program, were fully reconciled. It has been said elsewhere that all the potential for active participation in Institute affairs was latent in the alumni at all times, and that the loyalty of alumni as a body has never been questioned. President Matheson understood the value of good will and understood it clearly. Both students and alumni in the course of the endowment campaign were able to subscribe only \$32,000; yet through their enthusiasm in soliciting and their united support, they helped win for the Institute its full quota.

An indirect outgrowth of the endowment campaign was the establishment of the Maude G. Hopkins Scholarship Fund. Miss Adele M. Beck, '96, in the course of the campaign had asked those who had taken extension courses at the Institute to give in

memory of Maude G. Hopkins, for many years director of physical training for women at Drexel. When in 1925 the Drexel Institute Alumnae Club of Philadelphia was formed, one of its first acts was to create the Maude G. Hopkins Scholarship Fund, the income of which is used to help worthy women students in return for assistance in the alumni office. In 1926 various alumni groups further sponsored scholarship aid to needy students. Through an agreement with the Board of Trustees, the Board appropriated half the tuition for the freshman year; an alumni group raised the other half for a student entering Drexel from its territory. Five students received these Alumni-Trustee scholarships, one from Harrisburg, Pa.; one from Washington, D. C.; two from Baltimore, Md.; and one from Chester, Pa.

The J. Peterson Ryder Medal, established from a fund set up by the Men's Alumni Union and awarded to a man of the senior class for service to the Institute, was first given in 1928. Since 1933 the Drexel Women's Club has made a similar award in memory of Mr. Ryder to a woman member of the graduating class. Another alumni award is that offered by Mr. Jennings Hood, Business '95, of a bronze plaque featuring the Delaware River Bridge, presented each year to the outstanding man in the senior class of the School of Business Administration. An important step was taken in 1931 when the alumni voted to use the life membership fund, then totalling some ten thousand dollars, for student loans.

ALUMNI UNDER PRESIDENT KOLBE

1932-1941

As a result of Miss Worrell's splendid work Drexel had a well-organized and well-disposed Alumni Association well before Dr. Kolbe entered upon his duties as president of the Institute in 1932. From the later years of Dr. Matheson it was a point of Institute policy to give financial aid to the Association. This policy has been continued during the current administration, and has borne fruit in alumni sponsorship of student loan funds and scholarships during the difficult depression years.

In 1932 the *Drexel Alumni Review* was begun. First issued as a quarterly, it was, in 1935, reduced in size and published six times annually in order to bring alumni news more promptly to its

readers. The *Review* was in 1939 superseded by the *Drexel Tech Alumnus*, a quarterly, ably edited by Edwin B. Middleton, '26.

In recent years two new awards for outstanding scholarship have been established by the alumni. The first of these, the memorial Arthur J. Rowland Award, is given to the member of the junior class in the School of Engineering whose academic average has shown the most pronounced improvement over a three-year period. The second, the Home Economics Class of 1915 Award, has been given since 1935 to the woman with the highest scholastic average in the sophomore class of the School of Home Economics.

During the spring of 1937, the coöperation of the alumni in the selection of promising students was favorably begun. A committee, with Professor G. C. Galphin as chairman, was formed to seek in each community the help of chosen graduates to represent the interests of the Institute, and to act as alumni consultants. In April, fifty such alumni were invited to a conference at the Institute. The plan was simple: the Institute furnished to alumni consultants full information about Drexel for benefit of prospective students. Consultants were asked to hold themselves available for conference with such students. The plan is not and has never been in any sense a drive for added enrolment. On the contrary, first inquiry must come from the student, who is referred by the Institute to the nearest alumni consultant. The function of the consultant is selective, not promotional. Consultants understand that the Institute is interested chiefly in making contacts with outstanding secondary-school seniors, and the duties asked of them are only those consistent with academic dignity and practice. The plan, supervised by Miss Irma A. Schultz, Director of Public Relations, has operated with conspicuous success from the first.

In May, 1939, Miss Worrell resigned as secretary of the Alumni Association. A final tribute to her services appears in the *Annual Report* for 1938-39: "To Miss Worrell's industry and loyalty is due, not only the fact that Drexel has maintained an Alumni Association and established scholarship and loan funds during the last difficult decade, but she is also responsible for the founding of numerous Drexel Alumni Clubs throughout the country."

In 1939, Trustee Edward P. Simon became president of the Alumni Association and a new constitution was adopted to super-

sede that of 1923. Its most significant change, because the one most expressive of the accomplished fact that alumni of both earlier and later classes have subordinated class and school interests to interest in the Institute as a whole, is the section which replaces the traditional representation by departments or schools with representation by Junior Alumni men and women and Senior Alumni men and women. Today, as there is one Drexel Institute of Technology, so there is one Alumni Association. The senior alumni, with their richer and deeper experience of the Institute's early years, temper with their judgment the restless and active impulse of more recent graduates, and the Institute should be stronger through the merging of the two.

With full realization of the value accruing to the Institute from alumni unity, in 1940 a recommendation was made in the Board of Trustees that an appropriation be set aside annually for a period of three years to provide a paid secretary and other expenses incident to consolidating alumni gains. The appropriation was voted the alumni to the end that the Association might within a reasonable time become self-supporting. Under this provision three secretaries have been appointed: John A. Pflieger, Engineering '22; J. Bartley Cook, Commerce '36; and the present incumbent, Charles F. Oddy, Commerce '32. Mr. Oddy, seriously and intelligently interested in the welfare of the Institute and its graduates, deserves the undivided support of all Drexel alumni.

A NOTE ON DEGREES

One point of cleavage between some alumni of the earlier Drexel and the post-1917 Institute has been the matter of degrees. Often the question has been asked whether it might not be possible to confer degrees, either honorary or for course, upon the alumni of the early period. Since the quality of the work then given at the Institute was high, this would appear to be a natural question. But the character of such work, the excellence of which is beyond question, is not the sole factor to be considered. Other equally important factors are the kind and amount of preparation for the work; and the quantity of the work itself, both fundamental and specialized, as measured by the specifically approved curricula of the Institute. Indeed, the granting of degrees in course is both delicate and complicated, and rests by no means

with the Institute alone. The right to confer such degrees is a trust vested in the Institute by the State, which, along with powerful educational and professional accrediting bodies, is vitally concerned with both the scope and substance of a formal discipline, of which the degree is but the symbol. Happily, the Institute now can and should recognize and reward signal achievements among its graduates, old and young, by conferring upon them from time to time honorary degrees. Time to time is used advisedly; for given less than sparingly, such degrees become less than honorary.

In respect to granting degrees in course to alumni of the pre-1914 Institute, an excerpt from a letter, dated May 28, 1928, and addressed by Dr. James N. Rule to President Matheson, is in point here. Speaking for the State Council of Education of the Pennsylvania Department of Public Instruction, Dr. Rule writes:

Our opinion is that the Board of Trustees has no legal right to grant degrees to graduates of Drexel who were graduated before the action of the College and University Council, unless and until such graduates complete such additional work prescribed by the President and Faculty of the Institute as will fully meet all the requirements exacted of graduates since April 29, 1914, in accordance with the standards of the College and University Council and its successor, the State Council of Education.

In other words, the action of the College and University Council in 1914 could not be interpreted as being retroactive. Our opinion is substantially in confirmation of the opinion of your legal adviser, Mr. J. Rodman Paul, which you quote in your communication of May 24.

The State Council has never receded from this decision. On the contrary, the opinion was reaffirmed by the Council as late as May 3, 1938.

ASSOCIATED ALUMNI OF EVENING CLASSES

It will be recalled that the early constitution of the Associated Alumni of Drexel Institute, in its section on membership, entered an article which, in operation, excluded alumni of evening classes from active participation. The offending section provided that evening students were eligible only after two full years of attendance at evening classes, and then merely to associate membership, which carried with it neither the right to vote nor to hold office. Though this article was amended in 1908, it is hardly a

matter for wonder that on May 2, 1910, alumni of the evening classes met, organized as the Associated Alumni of Evening Classes of Drexel Institute, and adopted a constitution which closely paralleled the Day School constitution of 1906.

Constitution of 1910

The constitution of 1910 affirmed the objects of the Association to be the promotion of the best interests of the Institute, the strengthening of ties between the Institute and graduates, and the furtherance of the welfare of the individual members by coöperative effort. Three classes of membership were designated: active, honorary, and associate. Eligible for membership were all persons who had received certificates or diplomas for one full year's work in regular courses. The Association was divided into the following departments: Engineering, Mechanic Arts, Specials in Science; Mechanical Drawing and Machine Construction; Commerce and Finance; Junior Domestic Science and Arts; Architecture, Domestic Science; Library School, Domestic Arts; English Language and Literature. Dues were one dollar annually, and each department was entitled to draw upon the treasurer of the Association in any one year to the amount of thirty per cent of the dues received from its members in that year. Interestingly enough, in the autumn of 1910 President MacAlister was offered the honorary presidency of the Associated Alumni of Evening Classes. He promptly accepted the honor, and appears to have done what he was able to advance the new alumni group.

Of the Association's work, following organization in 1910, little has been formally recorded. Its efforts to promote social, dramatic, and musical programs were sporadic, as were those of the Day School alumni in the last years of the MacAlister administration. It is conservative to assume that during Dr. Godfrey's presidency alumni interest in the Evening School was not great. The major accent then was on the Day School; and conditions outlined elsewhere were particularly applicable to the evening students, whose contact with the life of the Institute was limited by their day employment, and by their attendance of evening classes for instruction, and instruction alone.

For the first three post-war years the new administration of the Evening School was occupied in revamping curricula, in

building up enrolment, and in initiating new courses for diploma. A note in the *Public Ledger*, May 12, 1924, however, suggests a renewal of interest on the part of the evening alumni, and of active sponsorship by the administration:

The 240 men and women who are to graduate on May 28 from the Drexel Institute Evening School have taken steps to form an alumni association consisting of all who have taken diplomas from the Evening School. They were led to this step by eagerness to aid in the campaign for an additional million dollars of endowment.

There is a flourishing Alumni Association for the . . . graduates who have taken degrees from Drexel Institute, but the new movement is a first endeavor to bind together the far greater number trained in the Evening School who have not proceeded to a degree. . . .

Accordingly, in 1924, shortly after the Day School alumni had framed another constitution, the Evening School alumni, who had for some time been discussing the advisability of reorganization, voted itself a new constitution under which, with minor amendments, it is operative today.

Constitution of 1924

The Association comprises graduates from the seven following diploma courses of the Evening School: Accounting and Business, Architecture, Chemical, Electrical, Mechanical, Municipal, and Structural Engineering. Alumni departmental groups are called branch alumni, and three elected representatives from each meet with the general alumni officers on the governing council of the Drexel Evening School Alumni Association. The Association officers, president, vice-president, secretary and treasurer, are elected by popular vote at the annual banquet held in June.

In addition to officers and governing council, there is an executive advisory committee, comprising the chairmen of standing committees, the presidents of the branches, and the officers of the Association. In addition to this body, there is a board of trustees, which consists of five members. Three are elected to terms of three years each; the president of the Alumni Association is the fourth; and the president of Drexel Institute, serving ex officio, the fifth. The alumni board of trustees receives, invests, and administers all endowment funds belonging to the Alumni Association. Within the general frame each departmental group has its separate consti-

tution, elects officers and committees, and functions as a separate unit.

Prior to 1939 the major sources of revenue were largely from social activities. In 1939 by amendment, contributing memberships and contributing life memberships were created. Contributing members subscribe two dollars annually, which is divided between the general Alumni Association and the branch alumni, the percentage being annually determined by the governing council, with the assistance of the membership and finance committee. Contributing life members subscribe \$25.00 or more; revenue from this is deposited with the board of trustees as a permanent scholarship endowment fund.

Committees and Activities

The alumni president appoints five standing committees: Interest, By-laws, Entertainment, *Alumnite*, Membership and Finance Committees. By-laws, Membership and Finance, and Entertainment Committees explain themselves by name. The activities of the general and branch alumni, and the *Alumnite* and Interest Committees, however, require further treatment.

Writes Fred B. Stratton, president of the Evening School Alumni, concerning the activities of the branch alumni:

The activities of the Branch Alumni naturally divide themselves into educational and social. Social activities are confined largely to the group meetings, although some of the more ambitious groups have not so confined themselves. The educational program has in the past consisted principally of lectures of a technical nature and plant visitation. In the summer time, numerous picnics at Drexel Lodge serve to divert the minds of alumni members and their families.

The most important activity of the general alumni has been the formation of the Recognition Committee for National Accrediting of Technical Institutes. This committee was created, to quote Mr. Stratton again on this subject, because

During the year of 1938 the Alumni Association recognized the fact that we were faced with a very peculiar problem. In Philadelphia the work accomplished by Drexel Evening School received full acknowledgment from industry as to its real value in the field of technical education. This was, however, due to familiarity with its results rather than the existence of any standard. On the other hand, any graduate

of the Evening School who moved to another city received little or no recognition.

The work of the Recognition Committee is part of a campaign for national accrediting of the best technical evening engineering schools. The problem has been adequately stated under the chapter on the Evening School itself. The activity of Evening School alumni, in support of Director Spivey and under Dr. Kolbe's sponsorship, resulted in interest and investigation on the part of a Committee on Engineering Schools of the Engineers' Council for Professional Development and the Society for the Promotion of Engineering Education. Thus in 1941 the matter stands. Future action must come from the two national societies. The fact remains that as the result of the initiative of the Evening School alumni, Drexel Institute has taken the leadership in sponsoring a development in education of wide potential social usefulness.

The Evening School alumni and administration have for several years past been active in the furtherance of post-graduate, or in more accurate phrasing, post-diploma study of non-technical subjects. Though from a purely technical standpoint Evening School graduates compare favorably with degree graduates, their opportunities in the other phases of general education are limited.

In addition to the courtesy courses for alumni arranged by Mr. Drexel, the alumni themselves provided, at the joint expense of the Alumni Association and of the Board of Trustees of the Drexel Institute, a post-diploma course in political science. This course was given from 1935 to 1939, and may be renewed in the future.

The history of Evening School alumni publications is substantially that of publications for the Day alumni. As early as 1919, an attempt was made to start an alumni periodical, under title of first, *Opportunity*, and later, *Action Training*. Though alumni-sponsored, this was more in the nature of a student enterprise. In February, 1929, appeared the *Drexel Evening Alumni News*, first such paper to represent the effort of an organized Drexel Evening School Alumni Association. Its first editor was Mr. Harry Baker. Since then, publication has continued without interruption, though in March, 1935, the publication was retitled the *Drexel Alumnite*, and is now published quarterly. At first limited in distribution, the *Alumnite* is issued to all active members of the alumni, and to faculty and upperclassmen of the Evening School.

The *Alumnite* is, of course, under the supervision of the appropriate standing committee.

The Interest Committee has created an Evening School Student Council, a valuable lead-in to later alumni activities. The stated objectives of this committee are to activate solidarity among Evening School students, to familiarize them with what the greater Drexel stands for, and to publish the yearbook, called the "Spartan," and assist the activity of the student editorial staff. Besides this, it aids in undergraduate social activity, and in particular sees to it that the Alumni Association is brought to the attention of the undergraduates, and that its organization is clearly understood by them.

A notable feature in the history of both Day and Evening alumni groups is that the trend toward consolidation does not occur prior to 1924. The tendency in both groups since that year has been toward the merging of interests in broad Institute welfare and away from departmental interests as primary. Though even the most recent constitution has not yet brought about a single alumni association for both Day and Evening, this may well be a future possibility. After all, it is only in the last decade, through the establishment of diploma groups which extend from six to eight years, that the student of the Evening School has had the opportunity of knowing his Institute to the extent of making it part of his life. Thus, it is only in recent years that the student of the Evening School has enjoyed the opportunity of knowing the Institute rather than the department as his Alma Mater, a drawback shared in the earlier years by the Day alumni. The Associated Alumni of the Evening School, though it may not soon merge with that of the Day, will, in all likelihood, follow a parallel course.

APPENDIX

THE CHARTER

TO THE HONORABLE THE JUDGES OF THE COURT OF COMMON PLEAS
OF PHILADELPHIA COUNTY, NO. 4:

In compliance with the requirements of an Act of the General Assembly of the Commonwealth of Pennsylvania, entitled "An Act to provide for the incorporation and regulation of certain corporations," approved the twenty-ninth day of April, A. D. 1874, and the supplements thereto, the undersigned, all of whom are citizens of Pennsylvania, having associated themselves together for the purpose herein-after specified, and desiring that they may be incorporated according to law, do hereby certify:—

First.—The name of the proposed corporation is the Drexel Institute of Art, Science, and Industry.

Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as the Drexel Institute of Art, Science, and Industry, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry.

Third.—The business of said corporation is to be transacted in the city and county of Philadelphia.

Fourth.—Said corporation is to exist perpetually.

Fifth.—The names and residences of the subscribers are as follows: John R. Drexel, 3907 Spruce Street, Philadelphia; A. J. Drexel, Walnut and Eighteenth Streets, Philadelphia; George W. C. Drexel, 2104 Walnut Street, Philadelphia; James W. Paul, Jr., 3809 Locust Street, Philadelphia; Richard C. Dale, Chestnut Hill, Pennsylvania.

Sixth.—The number of Trustees of said corporation is fixed at twenty-four, and the names and residences of those who are chosen Trustees for the first year are: John R. Drexel, 3907 Spruce Street, Philadelphia; Anthony J. Drexel, Eighteenth and Walnut Streets, Philadelphia; George W. C. Drexel, 2104 Walnut Street, Philadelphia; James W. Paul, Jr., 3809 Locust Street, Philadelphia; John R. Fell, 313 South Broad Street, Philadelphia; John Lowber Welsh, 1420 Spruce Street, Philadelphia; George C. Thomas, 301 South Twenty-first Street, Philadelphia; Joseph G. Rosengarten, 1532 Chestnut Street, Philadelphia; Richard C. Dale, Springfield Township, Montgomery County, Pennsylvania; Joseph M. Wilson, 1106 Spruce Street, Philadelphia; William V. McKean, 200 North Nineteenth Street, Philadelphia; Herbert M. Howe, 1622 Locust Street, Philadelphia; Walter

George Smith, 1814 Spruce Street, Philadelphia; George B. Roberts, Bala, Montgomery County, Pennsylvania; Edward DeV. Morrell, 1826 South Rittenhouse Square, Philadelphia; Joseph Moore, Jr., 1821 Walnut Street, Philadelphia; Addison B. Burk, 1121 Mt. Vernon Street, Philadelphia; Charles H. Baner, 2019 Spring Garden Street, Philadelphia; Edward H. Williams, Rosemont, Delaware County, Pennsylvania; George I. McLeod, M.D., 3905 Locust Street, Philadelphia; Alexander W. Biddle, M.D., Reading Pike, Chestnut Hill, Philadelphia; Edward T. Stotesbury, Tulpehocken Street, Germantown, Philadelphia; Charles E. Etting, 1319 Walnut Street, Philadelphia; Rev. Wm. B. Bodine, D.D., West Philadelphia.

Seventh.—The said corporation is to have no capital stock.

Witness our hands and seals this first day of March Anno Domini, one thousand, eight hundred and ninety-four (1894).

JOHN R. DREXEL,
A. J. DREXEL,
GEO. W. C. DREXEL,
JAMES W. PAUL, JR.,
RICHARD C. DALE.

COMMONWEALTH OF PENNSYLVANIA, }
COUNTY OF PHILADELPHIA, } ss.

Before me, the subscriber, a notary public for the city and county of Philadelphia, personally appeared Anthony J. Drexel, George W. C. Drexel, and Richard C. Dale, three of the subscribers to the above and foregoing certificate of incorporation of the Drexel Institute of Art, Science, and Industry, and in due form of law acknowledged the same to be their act and deed.

Witness my hand and official seal, this First day of March Anno Domini, one thousand, eight hundred and ninety-four (1894).

GEORGE H. HILL,

[SEAL]

COUNTY OF PHILADELPHIA, ss.

Filed in the office of the Prothonotary of the Court of Common Pleas in and for said county, this first day of March, A. D. 1894.

JAS. W. FLETCHER, *Deputy Prothonotary.*

[SEAL]

IN THE COURT OF COMMON PLEAS, NO. 4 OF PHILADELPHIA COUNTY.
In the matter of the Incorporation of the Drexel Institute of Art, Science, and Industry.

And now, to wit, this twenty-fourth day of March, A. D. 1894, the within certificate of incorporation having been on file in the office of

the Prothonotary of said court since the first day of March, A. D. 1894, the day on which publication of notice of intended application was first made, as appears from entry thereon, and due proof of said publication having been therewith presented to me, I do hereby certify that I have perused and examined said instrument, and find the same to be in proper form and within the purposes named in the first class of corporations specified in section 2 of the Act of April 29th, 1874, and that [said] purposes are lawful and not injurious to the community. It is therefore ordered and decreed that said charter be approved, and is hereby approved, and upon the recording of the said charter and its indorsements and this order in the office of the Recorder of Deeds in and for said county, which is now hereby ordered, the subscribers thereto and their associates shall thenceforth be a corporation for the purposes and upon the terms and under the name therein stated.

M. RUSSELL THAYER, *Pres't Judge.*

Recorded in the Office for Recording of Deeds in and for the City and County of Philadelphia in Charter Book No. 19, page 528.

Witness my hand and seal of Office this 7th day of April A. D. 1894.

THOMAS GREEN,
Recorder of Deeds.

[SEAL]

AMENDMENTS TO CHARTER

The following Amendments to the Charter of the Institute have been effected from time to time:

1. By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated June 10, 1914, and recorded in the Office for the Recording of Deeds in and for said County, in Charter Book No. 50, page 428, etc., on July 27, 1914, the second paragraph of the Charter was amended to read as follows:

"Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as the Drexel Institute of Art, Science, and Industry, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry, and with power of granting the degree of Bachelor of Science in Engineering."

2. By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated October 12, 1917, and recorded in the Office for the Recording of Deeds in and for said County, in Charter Book No. 58, page 207, etc., on November 12, 1917, the second paragraph of the Charter was further amended to read as follows:

"Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as the Drexel Institute of Art, Science, and Industry, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry, and with power of granting the degrees of Bachelor and of Master of Science in Secretarial Work and of Bachelor and of Master of Science in Domestic Science and Domestic Arts and the degrees of Bachelor of Science and Master of Science in Engineering; provided that the powers granted shall not extend to the granting of degrees in Civil, Mechanical, Electrical or other specific Engineering professions."

3. By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated June 6, 1927, and recorded in the Office for the Recording of Deeds in and for said County, in Charter Book No. 97, page 149, etc., on June 8, 1927, the second paragraph of the Charter was further amended to read as follows:

"Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as the Drexel Institute of Art, Science, and Industry, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry, with power of granting the degrees of Bachelor and of Master of Science in Secretarial Studies and of Bachelor and of Master of Science in Commerce and of Bachelor and of Master of Science in Home Economics and of Bachelor and of Master of Science in Library Science and the degrees of Bachelor and of Master of Science in Civil, Electrical, Mechanical and Chemical Engineering."

4. By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated May 13, 1931, and recorded in the Office for the Recording of Deeds in and for said County, in Charter Book No. 114, page 390, etc., on May 14, 1931, the second paragraph of the Charter was further amended to read as follows:

"Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as the Drexel Institute of Art, Science, and Industry, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry, with power of granting the degrees of Bachelor and of Master of Science in Secretarial Studies and of Bachelor and of Master of Science in Commerce and of Bachelor and of Master of Science in Home Economics and of Bachelor and of Master of Science in Library Science and the degrees of Bachelor and of Master of Science in Civil, Electrical, Mechanical and Chemical Engineering,

also such honorary degrees as are authorized from time to time by the State Council of Education, or its successors; and such other degrees in course as may be authorized from time to time by the State Council of Education, or its successors."

5. By decree of the Court of Common Pleas No. 4 of Philadelphia County, dated March 30, 1936, and recorded in the Office for the Recording of Deeds in and for said County, in Charter Book No. 127, page 525, etc., on May 19, 1936, the first paragraph of the Charter was amended and the second paragraph of the Charter was further amended to read as follows:

"First.—The name of the corporation is Drexel Institute of Technology.

"Second.—Said corporation is formed for the purpose of maintaining an industrial school, to be known as Drexel Institute of Technology, which shall afford to persons of both sexes, on equal terms, opportunities for education and improvement in Art, Science, and Industry, with power of granting the degrees of Bachelor and of Master of Science in Secretarial Studies and of Bachelor and of Master of Science in Commerce and of Bachelor and of Master of Science in Home Economics and of Bachelor and of Master of Science in Library Science and the degrees of Bachelor and of Master of Science in Civil, Electrical, Mechanical and Chemical Engineering, and also such honorary degrees as are authorized from time to time by the State Council of Education, or its successors; and such other degrees in course as may be authorized from time to time by the State Council of Education, or its successors."

PRESIDENTS OF THE INSTITUTE

James MacAlister	January 1, 1892, to June 13, 1913
Horace Churchman	June, 1913, to December 1, 1913
Hollis Godfrey	December 1, 1913, to October 1, 1921
Kenneth G. Matheson	April 1, 1922, to November 29, 1931
Parke R. Kolbe	October 1, 1932, to February 28, 1942

PRESIDENTS OF THE BOARD OF TRUSTEES

Anthony J. Drexel, 1891-1893	Alexander Van Rensselaer, 1908-
George W. Childs, 1893-1894	1933
James W. Paul, Jr., 1894-1908	A. J. Drexel Paul, 1933-

TRUSTEES

- John Ashhurst, 1926-1932
 Charles T. Bach, 1925-
 Charles H. Banes, 1891-1897
 Clarence S. Bement, 1896-1899
 Alexander W. Biddle, 1893-1916
 A. J. D. Biddle, 1918-1921
 Charles J. Biddle, 1935-
 Livingston L. Biddle, 1916-
 William B. Bodine, 1894-1907
 Cary W. Bok, 1933-1940
 Charles E. Brinley, 1921-1941
 James C. Brooks, 1897-1911
 Addison B. Burk, 1891-1912
 Alexander J. Cassatt, 1941-
 Robert K. Cassatt, 1924-1925
 George W. Childs, 1891-1894
 Horace Churchman, 1912-1919
 Thomas K. Conrad, 1891-1893
 John W. Converse, 1937-
 Cyrus H. K. Curtis, 1924-1933
 Samuel M. Curwen, 1917-1932
 Richard C. Dale, 1891-1904
 Herman Dercum, 1904-1924
 Alexander J. D. Dixon, 1910-1922
 Anthony J. Drexel, 1891-1893
 Anthony J. Drexel, Jr., 1891-1934
 George W. C. Drexel, 1891-
 John R. Drexel, 1891-1935
 Theodore N. Ely, 1902-1916
 Charles E. Etting, 1894-1910
 Allen Evans, 1902-1925
 John R. Fell, 1891-1895
 Edgar C. Felton, 1908-1937
 Hollis Godfrey, 1915-1918
 James E. Gowen, 1933-
 Charles D. Hart, 1912-1923
 Nathan Hayward, 1922-1929
 Herbert M. Howe, 1891-1916
 William M. Irish, 1935-1937
 Horace Jayne, 1910-1913
 A. Atwater Kent, 1924-1931
 Baldwin L. Keyes, 1940-
 Parke R. Kolbe, 1932-1942
 Charles H. Krumbhaar, Jr., 1938-
 C. Hartman Kuhn, 1912-1926
 Robert G. LeConte, 1912-1924
 Elisha Lee, 1919-1927
 Richard D. Leonard, 1933-1935
 J. Dundas Lippincott, 1899-1905
 Horace P. Liversidge, 1922-
 Kenneth G. Matheson, 1922-1931
 Daniel J. McCarthy, 1917-1940
 H. Gordon McCouch, 1922-1933
 William V. McKean, 1891-1900
 George I. McLeod, 1892-1905
 N. Dubois Miller, 1894-1910
 Joseph Moore, Jr., 1891-1921
 Edward DeV. Morrell, 1891-1901;
 1908-1917
 Effingham B. Morris, 1916-1937
 Effingham B. Morris, Jr., 1937-
 John H. Musser, 1906-1912
 Arthur E. Newbold, 1902-1914;
 1916-1920
 A. J. Drexel Paul, 1908-
 J. Rodman Paul, 1904-1941
 James W. Paul, Jr., 1891-1908
 George B. Roberts, 1891-1897
 Joseph G. Rosengarten, 1891-1909
 Robert F. Runge, 1936-
 Walter M. Schwartz, 1925-1930
 Edward P. Simon, 1929-
 John S. Sinclair, 1937-1941
 Walter George Smith, 1891-1914
 Philip C. Staples, 1933-
 Edward T. Steel, 1891-1892
 Joseph M. Steele, 1926-
 Edward T. Stotesbury, 1894-1924
 George C. Thomas, 1891-1909
 Charlemagne Tower, 1909-1923

Alexander Van Rensselaer, 1897-1933	J. Lowber Welsh, 1891-1904
James T. Wallis, 1927-1930	Edward H. Williams, 1892-1894
Charles Warner, 1939-	Joseph M. Wilson, 1891-1902
W. F. Watkins, 1891-1892	Charles D. Young, 1932-
	John E. Zimmermann, 1929-1935

PRESIDENTS OF THE ALUMNI ASSOCIATION*

Charles E. Bonine, 1895-1896	Charles E. Bonine, 1923-1924
Jennings Hood, 1896-1898	Ralph R. Worrell, 1924-1926
Frederick L. Lewton, 1900-1901	Herbert E. Harper, 1926-1928
Walter S. Ritter, 1904-1905	George B. Roberts, 1928-1930
J. Nelson Dick, 1905-1906	Mildred J. Starner, 1930-1932
B. C. Warnick, 1908-1909	William J. Stevens, 1932-1934
W. D. Forster, 1909-1910	A. Harry Wagner, 1934-1936
Henry J. Nelson, 1910-1911	E. B. Middleton, 1936-1937
W. D. Forster, 1911-1912	Raymond Bailey, 1937-1938
Howard H. Denn, 1913-1916	Edward P. Simon, 1938-1940
S. Duffield Hopkins, 1916-1918	Raymond Bailey, 1940-1941
	John B. Letherbury, 1941-1942

* Records for some years before 1923 are uncertain and incomplete.

INDEX*

- Abbott, Charles, 126
Administration Board, 70-1
Advisory Art Committee, 105, 140-1, 274
Advisory Board of Women, 20, 34
Advisory Committee (Students'), 300
Alexander Van Rensselaer Lectureship, 108-9
Aley, Robert J., 63
Alice B. Kroeger Scholarship, 215
Allez, Mrs. Jacques, 111, 140
Alpha Phi, 262
Alpha Phi Omega, 265
Alpha Pi Lambda, 161
Alpha Sigma Alpha, 262
Alpha Upsilon Mu, 261
Altmaier, Carl Lewis, 47, 125, 144, 147, 158, 159, 161, 212, 217, 249, 265
Alumni, The, 293-319: early organizations, 294-7; faculty participation, 297; constitution of 1906, 297-301; toward general organization, 300; constitution of 1912-13, 302-8; alumni petition of 1918, and reply, 306-7; alumni under Matheson, 307-11; constitution of 1923, 307; *Alumni Bulletin*, 309; alumni clubs, 309; *Alumni Review*, 310; alumni consultants, 312; Evening School alumni, 314-19; constitution of 1910, 315; of 1924, 316; toward national accrediting of evening schools, 317; post-diploma courses, 318; publications, 318
Alumni Bulletin, 309
Alumni Review, 310, 311
Alumnite, 317, 318
American Council on Education, 179, 180
American Institute of Electrical Engineers, 67, 179, 270
American Library Association, 210, 211, 218, 219, 222, 225
American Society of Chemical Engineers, 270
American Society of Civil Engineers, 67, 179
American Society of Mechanical Engineers, 67, 179
Anderson, Maxwell (*High Tor*), 265
Architecture, 123-4
Arellano, Juan, 124
Armor, C. Wesley, 111
Armstrong, T. J., 266
Arnett, John H., 281
Art Department, 37-8; 122-32
Arthur J. Rowland Award, 111, 312
Arthurs, Stanley, 129
Association of American Library Schools, 222
Athletic Council of Drexel Institute, 289, 291
Atkinson, Harry C., 309
Bacon, Corinne, 216, 217, 218
Baer, Edith, 197, 199, 206 n.
Bailie, William L., 47, 133, 165, 169, 228, 229, 234, 235, 238, 240, 241, 244, 249
Baker, C. M., 290
Baker, Harry, 318
Baker, John B., 183
Baker, Rose, 200 n.
Bales, Harold C., 174, 175
Ball, Lucina A., 34, 47
Banes, Charles H., 147, 148
Barker, J. W., 258
Barrett, James J., 175
Baughner, Frederick, 148
Beck, Adele M., 310
Beck, James M., 45
Benkert, Harry N., 170, 173
Bennett, William H., 197, 198
Berlinghof, W. L., 290
Beta Rho Delta, 269, 270
Biddle, Anthony Drexel, 19
Biddle, Livingston L., 291
Biglowe, Maurice, 199
Billings, J. H., 176, 178
Bintzer, H. R., 291
Bishop, Frederick L., 61
Blackburn, Isabel, 307, 309
Blank, Harry E., 268
Bliss, Robert P., 220 n.
Blue Key Fraternity, 265, 271
Bodine, William, 230

* Names in montage of news items, pp. 80-85, are not listed.

- Boelker, J. A., 267
 Bohemians, The, 260
 Bonine, Charles E., 295, 309
 Bonsall, Elizabeth F., 130
 Bosbyshell, C. O., 135
 Bosbyshell, J. R., 282
 Bourse, The, 269, 270
 Bowman, H. L., 179, 183
 Bradley, Alice, 199
 Brandau, Edna, 56, 118
 Brandt, Francis B., 194, 195
 Brazer, Clarence W., 124
 Brennan, Alice M., 47
 Bringham, John H., 68, 71, 77, 175, 176, 177, 178, 179
 Brinley, Charles E., 88, 90, 111
 Brooks, Alice R., 223
 Broomall, C. M., 174, 175
 Brown, F. D., 269
 Brown, Mabel W., 217
 Brown, W. M., 282
 Brubaker, A. P., 47, 192
 Buchtel College, 98, 99
 Buckfield, C. J., 283
 Buckingham, Franklin, 299
 Budd, Harold J., 289, 291
Bulletin, The (faculty publication), 267
 Burgess, Caroline L. T., 47, 189
 Burk, Addison B., 16, 34
 Burkholder, Eleanore M., 268
 Burns, Robert, 268
 Business Administration, School of (Business Department; Commerce and Finance; Secretarial School), 143-63: early courses and directors, 143-4; educational aims, 144-52; language training, 151; early administration, 152-8; MacAlister on School of Commerce and Finance, 155-7; reorganization, 1914, 158; Secretarial School, 159-61; degree courses, 161; reorganization, 1922, 161; diversification of courses, 161-3; increase in enrolment, 162; commercial teaching, 162; retail management, 162-3; flexibility of present organization, 163
 Byrne, E. J., 266
 Cadwalader, Mrs. Gouverneur, 111
 Cady, H. D., 274
 Callahan, Doran, 283
 Campbell, William, 286
 Capen, Samuel P., 60
 Carnegie, Andrew, 28
 Carnegie Corporation, 86, 223
 Carter, Hannah, 122
 Cassatt, Mrs. Robert K., 111
 Castleman, Virginia C., 50, 213, 272, 273
 Catanach, H. L., 282
 Catherine, Irwin T., 124
 Chambers, J., 130
 Chapman, Ardenia, 56, 200 n.
 Charles E. Etting Fund, 46
 Chase, Mrs. Elwyn F., 265
 Chase, Ralph E., 291
 Chellis, Bernice, 207
 Cherry, Mabel Dickson, 66, 275, 277
 Chesney, Andrew, 283
 Chess Club, The, 263
 Cheston, Mrs. Radcliffe, 111
 Childs, George W., 3, memorial article on A. J. Drexel, 6; friendship with the Founder, 6-10; character of, 9; memorial to, 10; Philadelphia of, 11; announces founding of Institute, 15; 16, 17, 19, 20; gifts to Institute, 21-2; 24, 31, 32, 33; original trustee, 34; succeeds Founder as president of Board, 44; 46, 47, 48, 85, 135, 137, 163; interest in education for women, 187-8
 Childs, Mrs. George W., 22, 46, 137
 Childs-Drexel Home for Union Printers, 10
 Childs-Drexel Memorial, 10
 Chitterling, Nelson M., 140
 Choral Music, 135-36
 Christie, A. G., 175
 Churchman, Horace, 54, 55, 216
 Clark, Elizabeth V., 219
 Clarke, C. Purdon (India Museum, London), 22, 137
 Claxton, P. P., 62
 Clinedinst, B. West, 130
 Clinger, R. H., 175
 Coffin, Howard, 55
 College Serenaders, 266
 Collingwood, Jennie, 47, 194, 200
 Commuters' Club, 263
 Compton, Karl T., 108
 Congdon, Ernest A., 47, 165, 241
 Conrad, T. K., 34
 Conrad, Mrs. T. K., 34
 Constant, Benjamin, 7
 Converse, John W., 111
 Conwell, Russell H., 74
 Cook, J. Bartley, 313
 Cooper, Colin C., 37
 Cooper Union, 13, 17, 18
 Coplin, Martha, 221, 307

- Corson, Charles, 282
 Cox, Mrs. J. Bellangee, 34
 Crawley, Marion, 277
 Creagmile, William B., 246
 Crowther, 288, 289, 290
 Cunningham, E. L., 111
 Curtis, Cyrus H. K., contemplates new site for Institute, 87; gift of Curtis Hall, 88; contribution toward dormitory for women, 89; letter to Van Rensselaer concerning terms of gift, 88-90; death of, 106; trustee minute on, 107; memorial service for, 108; gift for equipment and practice house, 206-7
 Curtis, Mrs. Cyrus H. K., 87, 88
 Curtis, Florence Rising, 221
 Curtis Hall, 87-8
 Curwen, Samuel M., 108

 D. Q. B. (student club), 260
 Dale, Richard C., 34
 Dalton, Lillian M., 47
 Damrosch, Walter, 109
 Darlington, Elizabeth, 268
 D'Ascenzo, Nicola, 37, 126, 140, 237
 Davis, James E., 289
 Day, Bertha Corson, 130
 Debating Society, The, 263
 De Land, Clyde O., 127, 129, 130
 Delta Delta Sigma, 262
 Delta Epsilon Beta, 261
 Delta Kappa Nu, 269
 Delta Sigma Alpha, 261
 Delta Sigma Epsilon, 262
 Denn, Howard H., 304, 307, 308, 309
 Dennis, Clarence S., 22
 Denver Library School, 224
 Depew, Chauncey M., 28; dedicatory address, 28-30; 33, 187, 142
 Dewey, Melvil, 210
 Dick, J. N., 297
 Dickens, Charles (ms. *Our Mutual Friend*), 139
 Dickinson, James M., 47, 50, 135, 142, 146, 148, 230, 266, 273
 Dill, Andrew H., 286
 Dill, Clarence G., 283, 284, 285
 Dill, Frances J., 48
 Dill, Katharine F., 47
 Dill, Lucia P., 309
 Dillmore, F. Virginia, 56, 118
 Disque, Robert C., 76, 98, 175, 176, 178, 179, 183, 101
 Dixie's *Diary* (quoted), 213, 272-3
 Doane, Stella T., 217
 Donnelly, June Richardson, 215

 Dorsey, Ruth A. L., 76, 260, 263, 275
 Dougherty, Louis R., 129
 Dowell, D. Dawson, 174, 175, 176, 183, 289, 291
 Drew, Thomas B., 181, 182
 Drexel, Anthony J. (The Founder), 1, 3; boyhood and early training, 4-5; personality and character, 5-8; friendship with Childs, 5-10; purposes in founding Institute, 13-21; 22, 24; not present at dedication, 26; 31, 32, 33, 34, 35; interest in cultural opportunities for public, 41; death of, 44; memorial services for, 44; 47, 48, 61, 85, 132, 134, 135, 137; and Lankenau art collection, 138; 155, 163; interest in education for women, 187-8; 229, 306
 Drexel, Mrs. Anthony J., 6, 7, 16, 21, 187
 Drexel, Anthony J., Jr., 20, 34, 46, 78, 108, 187
 Drexel, Mrs. Anthony J., Jr., 34
 Drexel, Francis A., 4, 5
 Drexel, Francis Martin, 1, 2-4, 5, 11, 14
 Drexel, Mrs. Francis Martin, 3
 Drexel, George W. Childs, 34, 78, 79, 87, 92, 99, 110, 255, 256, 318
 Drexel, Mrs. George W. Childs, 34
 Drexel, Gordon F., 111
 Drexel, Harjes and Company, 5
 Drexel, John R., 22, 34, 78, 108, 230
 Drexel, Mrs. John R., 34
 Drexel, Joseph William, 4, 5
 Drexel, Mother M. Katharine, 283
 Drexel and Company, 3, 4, 5, 11
 Drexel, Morgan, and Company, 5
 Drexel, Sather, and Church, 5
 Drexel Club of Engineers, The, 270, 301
 Drexel Colors, The, 273
 Drexel Institute of Technology (The Drexel Institute of Art, Science, and Industry), original position of, 13-14; announcement of foundation, 14-15; the foundation, 16-20; endowment, 20-1; early gifts to, 21-2; building and equipment, 23-6; dedication, 26-30; MacAlister on aims of, 31-2; first officers, 34-5; first departments of instruction, 36-43; early faculties, 46-7; early traditions, 48-50; MacAlister's services to, 52-3; reorganization under Godfrey, 55-9; twenty-fifth anniversary of, 59-64; results of Godfrey's administration, 67-69; under Mathe-son, 72-97; expansion of coöperative

- plan, 77-8; endowment campaign, 77-86; physical expansion, 86-91; Matheson's services to, 96-7; under Kolbe, 98-120; position of in 1932, 99-103; increase in real holdings, 106; change of name, 114; enrolment: 1932-1941, 115-16; added facilities: 1932-1941, 116-17; present position of, 117-20; cultural traditions of, 121-42; modern schools of: Business, 143-63; Engineering, 164-86; Home Economics, 187-209; Library Science, 210-25; Evening, 226-59; student life, 260-75; athletics, 276-92; alumni of, 293-319
- Drexel Lodge, The, 90-91
- Drexel Ode, The, 50, 213, 272-3
- Drexel Tech Alumnus*, 312
- Drexel Women's Club, The, 110, 111, 311
- Drexelians, The, 266
- Drexelterians, The, 272
- Drexer*, The, 268
- Dull, John J., 47, 124, 125, 142, 232, 235, 236
- Dulles, Mary, 34
- Eakins, Thomas, 131
- Eaton, Seymour, 47, 144, 148, 151, 152, 154, 155
- Ebersole, Amanda, 201 n.
- Eccentric*, The, 260, 266, 267, 268, 278
- Echo*, The, 261, 264, 267, 269, 299, 300, 301
- Edison, Thomas A., 28
- Editors' Club*, 269
- Edmonds, Franklin Spencer, 251
- Eightball Union, The, 262
- Eldon, C. W., 118
- Ellington, D. D., 124
- Empire State Club, 263
- Engineering Seminary, 270
- Engineering, School of, 164-86: early constituent courses, 164-9; electricity, 166-8; beginnings of mechanical engineering, 168; mechanic arts, 169; integration: 1903-14, 169-70; curricula for degree, 172-4; post-war reorganization, 174-7; coöperative curriculum, 176-7; engineering under Matheson, 178-81; toward national recognition, 179; five-year curriculum, 180; final accrediting, 182-3; present needs, 183-4; engineering and the war effort, 184-6
- Engineers' Council for Professional Development, accredits School of Engineering, 182-3; 258
- Eno, Paul, 266
- Entriken, R., 282
- Essick, George, 282
- Eta Kappa Nu, 271
- Etting, Charles E., 46, 111
- Evans, J. G., 50
- Evening School, The, lectures and evening classes, 41-2; under Godfrey, 57; Matheson on, 94-5; Kolbe on, 100; 110; enrolment: 1932-1941, 116; early evening courses, 228-35; certification for credit, 235; growth and integration: 1898-1904, 237-9; group courses, 239-41; Starkey on group plan, 247; middle period, 248-52; Evening Diploma School: 252-9; unique features of, 255-7; sponsors plan for national certification, 257-9; alumni activities, 314-19
- Eyanson, C. L., 70, 76
- Ezekiel, M., 45
- Faculty Advisors, The (student club), 260
- Faculty Council on Athletics, 288, 289, 291
- Fairchild, Salome C., 215
- Fairmount Park Art Association, 10
- Falconer, Sir Robert, 63
- Farr, Mary P., 220, 309
- Fay, Bernard, 109
- Fee, Edward Meredith, 16 n.
- Fell, John R., 34
- Fels, Morris, 111
- Fels, Samuel, 110
- Felton, Edgar C., 90, 108, 110
- Ferguson, L. K., 282
- Ferry, Frederick C., 61
- Fisher, S., 285
- Fisk, Ira W., 64, 68, 174, 175, 179
- Fletcher, F. A., 181
- Ford, Guy Stanton, 62
- Ford, Paul Leicester, 213
- Foss, Bishop, 27
- Frances Drexel Paul Scholarship, 38
- Franklin, Benjamin, 14
- Fulton, N. D., 283
- Furness, William H., 27
- Galphin, George C., 112, 113, 312
- Galsworthy, John, 264
- Garrett, Mary, 111
- Garrison, Letitia W., 86
- General Education Board, 79, 85

- General Electric Company, 253
 George Baugh Heckel Scholarship, 111
 Georgia School of Technology, 73
 Gervasi, Frank, 268
 Girard, Stephen, 17
 Godfrey, Grace, 199, 200
 Godfrey, Hollis, 8, 17, 25, 37, 38, 39, 40, 42, 54-69: early career, 54-5; reorganization of Day School, 55-8; advocates increased professional training for faculty, 58-9; conducts celebration of twenty-fifth anniversary of Institute, 59-64; initiates co-operative plan, 64-5; educational theories, 67; resignation, 69; 70; factionalism in administration, 72; 73, 77, 78, 79; Matheson on reorganization of Day School, 94-5; 101, 103, 105, 134, 138, 139; and the business School, 159; 171, 175, 181, 191, 192, 196; suspends Library School, 216-17; 218; correspondence with Miss Bacon, 219; 220, 249, 251, 263, 264, 285; service to athletics, 285; 299; strained relations with alumni, 302-7; 315
 Goodrich, Lloyd, 131
 Goodspeed, Helen, 199, 201 n.
 Gorman, R. C., 275
 Gould, Frank R., 289
 Gowen, James E., 111
 Graf, W. C., 290
 Grafty, Charles, 37, 47, 123, 130, 142
 Grafty, Dorothy, 105, 140, 141
 Grant, Ulysses S., 6, 9
 Graves, Frank P., 195
 Gray, John W., 267
 Grayson, Clifford P., 37, 47, 122, 125, 128, 129, 130, 131, 142
 Green, Elizabeth Shippen, 126, 130
 Greene, A. M., 180
 Gregg, Therese, 205
 Gross, Ann, 268
 Grosvenor, Edwin A., 62
Guide to the Study of Reference Books (Kroeger), 213
 Gummere, Henry V., 68, 119, 159, 166, 173, 194, 226 *et seq.*, 267, 274, 297, 300
 Haas, Arthur, 109
 Hagenbotham, May, 47, 145, 146, 190, 191, 294
 Hake, Clara, 307
 Halas, Walter H., 281, 287, 289
 Hale, Edward Everett, 50
 Hall, Caroline A. M., 47, 189, 194, 197, 200, 294, 297
 Hall, Ernest J., 286, 287
 Hallowell, Anna, 34
 Hancock, Walker, 40
 Hanna, Mary E., 307, 309
 Hannah, Horace W., 263
Hanseatic, The, 267, 278
 Hanson, Robert S., 182, 265
 Harjes, John H., 45
 Harris, F. M., 290
 Harris, William T., 155
 Hartung, T. B., 269
 Hartwell, E. A., 26
 Haviland, Isaac John, 116
 Hayward, Florence N., 175
 Heckman, Reed, 287
 Heist, Stuart, 282
 Helms, J. R., 283
 Hemperley, Francis H., 144
 Henneberg, Walter, 265
 Henwood, Abraham, 47, 159, 165, 173, 241, 270, 300
 Henwood, Martha, 277
 Hermann, E. W., 268
 Hibben, John Grier, 62
 Hinkson, John, 248
 Hisler, Andrew L., 285, 286
 Hoagland, Dorothy, 275
 Hogarth, William, 140
 Holbrook, N. D., 282
 Holdsworth, John T., 47, 267
 Holy Trinity Church, 3, 11
 Home Economics, School of (Domestic Science and Arts), 187-209: early courses, 188-91; consolidation: 1894-1900, 191; junior course, 191; domestic science: 1900-14, 192; nursing, 192; domestic arts: 1900-14, 193; normal courses, 193-4; education and psychology, 194-5; School of Domestic Science and Arts: 1914-22, 195-9; degree courses, 197; dietetics, war courses, 197-9; Home Economics, 199-209; major divisions: 1927-41, 200-03; graduate study, 204; facilities, 205-7; child study and care, 207; adjustment and guidance, 207-8; placement, 208
 Hood, Frank G., 309
 Hood, Jennings, 311
 Hookey, Anthony, 3
 Hopkins, Maude G., 40, 47, 111, 276, 277, 311
 Hopkins, S. Duffield, 304
 Hopkins, William J., 47, 165
 Hotz, Henry, 266

- Houghton, Stanley, 264
 Howe, Herbert M., 34
 Howland, Anne Wallace, 220, 221, 224
 Hyde, Alice, 309
- International Typographical Union, 10, 50
 Irish, W. M., 111
- Jewish Students' Association, 272
 Johnson, Alice A., 307
 Joker Fraternity, The, 260
 Joyce, Mrs. Darl B., 206
- Kapp, Cecil A., 77, 78, 161, 178, 289, 291
 Kappa Delta Gamma, 262
 Kappa Phi Delta, 261
 Kappa Sigma Delta, 261
 Kappes, Sallie B., 221
 Keen, W. W., 62
 Keller, R. Louise, 218
 Kelley, H. E., 287
 Key and Triangle, 271
 Kirby, Clement S., 124
 Kolbe, Parke R., 98-120: accepts presidency of Drexel, 98; early career, 98; writings of, 99; report on Institute of 1932, 99-103; advocates graduate work and research, 104; publication of annual reports, 105; new steps toward orientation and guidance, 112-13; initiates Open House, 113; facilities acquired under, 116-17; defense and war program, 118-19; summary of accomplishments, 119-20; 140, 182, 183, 184; on post-diploma Evening School course, 255; 274, 291, 292, 310, 311, 318
 Kolyn, Marion D., 175, 178
 Kroeger, Alice B., 34, 47, 111, 211, 212, 213, 214, 215, 218
 Kron, H. O., 269
 Krumbhaar, C. H., Jr., 118
 Kugler, J., 283
- La Bove, Michael, 288
 Lange, Ernest O., 286, 290, 291
 Lankenau, John D., 44, 138
 Lambda Chi Alpha, 261
 Lambda Upsilon Delta, 260
 Latin-American Club, The, 263
 Law, Marie Hamilton, 221, 225
 Lea, Arthur H., 110
 Leibfried, Edwin, 42
 Leonard, Samuel J., 286, 288, 290
Lexerd, The, 61, 267, 268
- Library Journal, The* (quoted), 210, 216, 217
 Library Science, School of (Library School), 210-225: early library training, 210; initial courses, 211; first graduating class, 212 n.; toward a liberal background, 214; entrance examinations, 214; suspension of Library School, 216-19; official explanation of suspension, 216-17; Miss Bacon's review of school, 217; alumni association, 218; Bacon-Godfrey correspondence, 219; reestablishment, 219-21; faculty, 221; curriculum, 222; library science for degree, 223; Carnegie grant, 223; special courses, 225; present needs, 225
- Limerick, Margaret C., 194
 Linthicum, Frank H., 70, 76, 176, 177, 179
 Lion Tamers, The, 262
 Lippincott, Mrs. J. Dundas, 22, 34
 Liversidge, Horace P., 76, 111, 291, 307, 308, 309
 Lockart, Thomas, 290
 Lone Hand, The, 260
 Lorch, Emil, 124, 142
 Lyons, James P., 186, 286
 Lytton, Bulwer (*Money*), 265
- M. G. S. (student club), 261
 MacAlister, James, on desire of the Founder, 18; 20, 22, 23, 25, 26, 30, 31-53: on object of the Institute, 31; education of, 32; experience in education, 32-3; writings and lectures, 33 n.; his Preliminary Circular of Information, 34-42; 43, 44, 45; selects first faculty, 46-7; 48, 49; on position of the Institute, 51-2; services to Institute, 52-3; 54, 67, 103, 130 *et seq.*, on education for business, 142-151; 152, 154; letter to Commissioner of Education, 155-156; on teacher training, 157; 160, 162, 163, 164, 166, 169, 171; 188 *et seq.*, 211 n., 212, 213, 216, 226 *et seq.*, 240, 244, 248, 263; and the Drexel Ode, 273; initiates student government, 274; and the alumni, 293-4; 296, 297, 300, 307, 315
 MacAlister, Mary T., 138
 MacIntyre, Frances E., 48, 76
 Macky, Bessie R., 211 n.
 MacVeagh, Wayne, 26
 Maene, John L., 123

- Mains, L. P., 290, 291
Man Who Ended War, The (Godfrey), 55
 Mann, C. R., 179
 Manney, M. C., 283
 Martin, Edward S., 51
 Martin, Glenn L., 109
 Mary S. Irick Award, 110, 255
 Mason, Harriet L., 47, 173
 Masqueraders, The, 264
 Mathematical Club, The, 263
 Mather, Thomas T., 268
 Matheson, Kenneth G., 71-97: early career, 71; at Georgia Tech., 73; Drexel beginnings, 74; reorganization of faculty and administration, 76; work with alumni, 76; on needs of Drexel, 76; and the cooperative plan, 77; and the five-year curriculum, 78; drive for endowment, 78-86; physical expansion of Institute: Curtis Hall, 87-8; Sarah Drexel Van Rensselaer Dormitory, 88-90; Drexel Lodge, 90-1; death of, 93; appraisal of Godfrey reorganization, 94-5; final report of, 95-6; Trustee minute on death of, 96-7; 98, 101, 103, 117, 161; and engineering, 177-80; 199; revives Library School, 220; 223, 254; sponsors *Triangle*, 268; 288, 289, 290, 291, 292; and the alumni, 307 *et seq.*
 Maude G. Hopkins Scholarship, 86, 310, 311
 Maxwell, S. R., 295
 McAvoy, William J., 286
 McCook, P. H., 282
 McDonald, Edward D., 178
 McMains, M. H., 290, 291
 McMullan, W. N., 113
 Menorah, Society, 272
 Men's Athletic Council, 289
 Men's Faculty Club, 105
 Men's Student Council, 275
 Metcalf, Keyes, 225
 Michaels, Ruth, 200 n., 201 n.
 Middleton, Edwin B., 312
 Mills, Mrs. Paul D., 111
 Mirsch, John, 291
 Mitchell, S. Weir, 9, 192
 Moore, John, 287, 289
 Moore, Joseph, Jr., 34
 Moore, Sallie Beth, 207
 Morley, Christopher, 264
 Morons, The (student club), 262
 Morris, Effingham B., 90, 108, 110
 Morris, Effingham B., Jr., 111
 Morris, Ellen, 47
 Mossop, Clement E., 168, 174
 Mount Onionites, The (student club), 261
 Mudge, Isadore Gilbert, 213
 Mumford, Mrs. Joseph P., 34
 Munn, Mrs. Charles A., 111
 Murphy, Emma M., 277
 Museum, The, 136-38
 Nash, A. H., 283
 National Youth Administration, 111
 New Century Club Guild, The, 227
New Home for an Old House, A, 3, 4
 New Jersey Club, The, 263
 New Jersey Library Association, The, 221
 Newman Club, The, 272
 New York State Library School, 210, 211, 215, 217
 Nieukirk, J. L., 282
 Northup, Willard C., 124
 Oakley, Violet, 129, 130
 Obold, Walter L., 118
 O'Brien, H. J., 286
 Oddy, Charles F., 313
 Omega Delta Upsilon, 262
 Omega Gamma, 269
 Omicron Nu, 269, 271
 Open House, 113
 Order of Petrified Pollywogs (student club), 260
 Otto of Austria, 109
 Owen, Sir Philip Cunliffe, 137
 Owls, The (student club), 260
 Parker, C. H., 286
 Parrish, Maxfield, 126, 129, 130
 Paul, Allan G., 21, 137
 Paul, A. J. Drexel, 87, 91, 92, 110, 140, 287, 288
 Paul, James W., Jr., 17, 34, 38, 44, 46, 49, 140
 Paul, Mrs. James W., Jr., 21, 34; scholarship named for, 38
 Paul, J. Rodman, 92, 107, 108, 110, 314
 Paul, Mrs. Lawrence T., 140
 Pearson, J. M., 174
 Peerless Club, 261
 Penniman, Josiah H., 74, 93
 Pennsylvania Academy of the Fine Arts, 2, 130
 Pennsylvania Hospital, 87, 117
 Pennsylvania Library Club, 221
 Penrose, Boies, 2 n.
 Pepper, George Wharton, 108

- Perkins, Caroline B., 309
 Pflieger, John A., 213
 Phi Delta Mu, 262
 Phi Kappa Beta, 261
 Phi Kappa Phi, 271
 Philadelphia (Childs-Drexel Era), 11-14
 Philadelphia Board of Education, 110
 Philadelphia Electric Company, 250, 253
 Philogia, 269
 Phinney, H. B., 283
 Phoenix Club, 263
 Pi Kappa Phi, 261
 Pi Omega Pi, 270
 Pi Sigma Gamma, 262
 Pickwick Club, 262
 Picture Gallery (The Lankenau Collection), 138-9
 Poe, Edgar Allan (ms. *Murder in the Rue Morgue*), 139
 Polites, Thomas J., 268
 Potter, A. A., 184
 Potter, Henry C., 18, 27, 28, 45
 Pratt, Charles, 18
 Pratt Institute, 13, 17, 18, 19, 47, 51, 52, 258; Library School of, 210, 211, 217
 Preliminary Circular of Information (Drexel Institute), 34, 46, 143, 164, 189, 193
 Preston, Mrs. George R., 34
 Public Lectures and Entertainments, 132-4
 Pyle, Howard, 37, 47, 122, 125-30; appointment, 125; theories of art, 126; letter to a discouraged student, 128; summer school of, 129; resignation, 130, 142, 214
 Quill Clique, 269
 Randa, C. E., 174, 175, 176
 Randell, Lillie B., 44, 86, 87, 89, 90, 93, 110
 Rathbun, H. Walter, 144, 147, 151
Record, The (student annual), 268
 Redmond, Leo, 288
 Reed, Ollie W., 266, 287
 Reeves, D. L., 282
Register of Graduates, 296
 Repscha, A. H., 287, 289, 290
 Reserve Officers' Training Corps, 60, 96, 110, 186, 271; Band, 266
 Richards, Howard S., 124, 233
 Ridpath, W. L., 286
 Rittenhouse Square, 11
 Ritter, W. S., 296
 Robb, E. Donald, 124
 Roberts, George B., 34
 Robinson, William L., 47, 122
 Rock and Rye Brotherhood (student club), 260
 Rood, Edith M., 268
 Root, Elihu, 55
 Rose Polytechnic Institute, 19
 Rosengarten, Joseph D., 22, 34
 Rouge and Robe, 265
 Rowe, Walter E., 174, 175, 176
 Rowland, Arthur J., 47, 54, 68, 165
et seq., 226, 229, 230, 233, 236, 238, 240 *et seq.*, 270, 297, 299, 300, 303
 Rowland, John F., 47, 167
 Rozet, John, 6
 Rule, James N., 314
 Runge, Robert F., 307
 Runnymede, 91, 285, 304
 Rushton, J. H., 182
 Ryder, J. Peterson, 6, 40, 47, 76, 92, 93, 98, 105, 111, 220, 264, 275, *et seq.*, 288, 300, 307, 311
 Ryder Club, The, 105
 Ryley, Violet, 199
 St. John, Sarah L., 207
 Sarah Drexel Van Rensselaer Dormitory for Women, 88-90
 Scabbard and Blade, 271
 Schmidt, Oscar, 283
 Schmitz, Charles, 41, 47, 135, 142
 Schneider, Herman, 178, 182, 183
 Schoch, Parke, 47, 144, 146, 147, 154, 155, 158, 159, 240, 296, 297
 Schofield, J. S., 282
 School of Illustration, 125-30
 School of Practical Arts, Boston, 54
 Schoonover, Frank E., 129, 130
 Schultz, Irma A., 312
 Schwartz, Walter M., 90
 Shaffner, Mary H., 297
 Shedden, Annie P., 47, 212
 Shoe, W. B., 282
 Shrader, J. E., 118, 178, 183
 Siegmund, H. O., 174, 175
 Sigma Omicron Pi, 262
 Sigma Sigma Sigma, 262
 Simon, Edward P., 88, 89, 90, 105, 111, 117, 124, 140, 307, 312
 Sloan, Alfred P., Jr., 109, 111
 Smith, Adele, 212
 Smith, Jessie Willcox, 126, 130
 Smith, Thomas, 47, 168, 249
 Smith, Walter George, 34
 Smith College, 29

- Smullen, C. W., 291
 Social Club, The, 263
 Society for the Promotion of Engineering Education, 183, 258
 Society of American Military Engineers, 183
 Society of Commercial Engineers, 270
 Southern Club, The, 263
 Speirs, Frederick W., 47, 155, 294
 Spivey, Willis T., 70, 91, 98, 118, 119, 251, 252, 253, 256, 257, 258, 289, 318
 Spring, Helen, 47, 188, 194, 197
 Spring Garden Institute, 16
 Standish, George M., 46
 Stanger, Marion E., 309
 Starkey, L. Cheston, 170, 173, 246, 247
 State Council of Education, 222, 223, 314
 Steel, Edward T., 34
 Steiger, Esther, 309
 Stephens, Charles, 129
 Stevens, William J., 119, 287, 288, 289, 291
 Stratton, Fred B., 257, 317
 Stratton, Leon D., 98, 118, 175, 178, 181, 289
 Student Life and Government, 260-75: early secret societies, 260-1; modern Greek letter societies, 261-2; non-Hellenic clubs, 262; sectional clubs, 263; dramatics, 264-5; music, 265-7; publications, 267-9; professional societies, 269-71; general honor societies, 271-2; religious organizations, 272; student government, 274-5
 Students' Army Training Corps, 60
 Sudell, Una, 309
 Suicide Club, The, 262
 Sutcliffe, Arthur, 124
 Suzzallo, Henry, 62
 Swett, Emily, 240
 Tabakin, Samuel, 262
 Tamblyn and Brown, 80
 Tau Beta Pi, 263, 270-1
 Tau Kappa Epsilon, 261
 Tau Rho Delta, 261
 Taylor, Bruce, 63
Technical Journal, The, 269
 Temple University, 13, 74, 75
 Tepper, Adam F., 186
 Thayer, C. H., 268
 Thespian Club, The, 264, 301
 Thespian Thirty, The, 263
 Theta Chi, 261
 Thomas, Adeline C., 304
 Thomas, George C., 22, 34, 133, 135
 Thompson, John, 212
 Thunder, Henry Gordon, 133
 Thunder, William S., 226
 Tilden, Charles J., 175
 Tillman, B. R., 50
 Tower, Charlemagne, 63
Triangle, The, 268-9
 Trimble, Katherine M., 218, 221, 309
 Troth, Mrs. William, 111
 Truscott, Arthur, 45, 47, 124, 125, 142, 173
 Tucker, Mrs. D. A., 307
 Turner, Eliza S., 34
 Twisted Twenty, The (student club), 260
 Twitmyer, Edwin B., 195
 Ulrich, Josephine L., 277, 281
 Union Printers' Home, 10
 University of Akron, 98, 99
 University of Pennsylvania, 7, 13, 59, 72, 74, 155, 214, 224
 Urquhart, L. C., 178
 Vanderlip, Frank A., 62
 Van Dusen, Paul, 282
 Van Rensselaer, Alexander, 46, 87, 89, 90, 91, 92, 106, 107-8, 110, 111, 255
 Van Rensselaer, Sarah Drexel, 2 n., 21, 40, 45, 78, 87, 89, 91, 93, 106, 107
 Van Rensselaer, Stephen, 108
 Van Rensselaer Lectures, 108-9
 Van Riper, Charles C., 157, 248, 249
 Van Tine, A. K., 116
 Vassar, Matthew (letter to A. J. Drexel), 17
 Vassar College, 17, 29
 Vella-Vos, Victor, 29
 Verlenden, Ruth, 264
 Vigilantes, The (student club), 262
 Wagenseller, W. R., 76, 90, 98, 161, 289, 291
 Walter C. Murphy Foundation, 183
 Wanner, H. A., 175
 Ward, Henry C., 182
 Ware, Mary C., 123
 Warner, Charles, 118, 307
 Watkins, Wilbur F., 34
 Watmough, Mrs. J. G., 34
 Weaver, Rudolph, 124
 Welch, Edgar M., 266, 267
 Wellesley College, 29
 Wells, Helen, 199
 Welsh, J. Lowber, 34

- Wentworth Institute, 258
 Wesley, Oscar, 118
 Westney, J. S., 283
 Wharton School of Finance and Commerce, 149
 Wheeler, Charles H., 47, 283
 Wheeler, Joseph L., 225
 Whipple, William H., 109
 White, E. T., 286
 Whitehead, Russell F., 124
 Wilde, Percival, 264
 Williams, Edward H., 21, 137
 William Talcott (Childs-Drexel period), 8-9, 11
 Williamson, Irene, 254
 Wilson Brothers and Co., 20
 Wilson, Joseph M., 20, 34
 Wilson, Sarah M., 194, 195
 Wilson, Woodrow, 70
 Windisch, H. A., 268
 Winthrop Normal and Industrial School, 50
 Wireless Club, The, 263
 Witanagemot, The, 263
 Witmer, Lightner, 195
 Wold, Bertha J., 281
 Wolff, Henry C., 176, 178, 263
 Women's Student Government Association, 275
 Wood, James L., 37, 47, 123, 279
 Wood, Leonard, 55
 Woodruff, Myra, 207
 Woofs, The (student club), 262
 Worrell, Harriet E., 76, 86, 96, 166, 309, 310, 311, 312
 Worrell, Ralph R., 282
 Yard, George B., 267
Yearbook, The, 268
 Yellin, Samuel, 140
 Yip Yaps (student club), 261
 Young, L. R., 307
 Y. M. C. A., 272
 Y. W. C. A., 272
 Zink, Philip, 113

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